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# An In-depth Look at the United Kingdom Integrated Permitting System

Exploring Global Environmental  
Protection Perspectives

## Appendices

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## **APPENDIX A**

### **SUPPLEMENT TO ACKNOWLEDGEMENTS**

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# APPENDIX B EU INTEGRATED POLLUTION PREVENTION AND CONTROL DIRECTIVE 1996

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## COUNCIL DIRECTIVE 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control (OJ L 257, 10.10.1996, p. 26)

Amended by:

		Official Journal		
		No	page	date
►M1	Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003	L 156	17	25.6.2003
►M2	Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003	L 275	32	25.10.2003
►M3	Regulation (EC) No 1882/2003 of the European Parliament and of the Council of 29 September 2003	L 284	1	31.10.2003

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**COUNCIL DIRECTIVE 96/61/EC**  
**of 24 September 1996**  
**concerning integrated pollution prevention and control**

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 130s (1) thereof,

Having regard to the proposal from the Commission <sup>(1)</sup>,

Having regard to the opinion of the Economic and Social Committee <sup>(2)</sup>,

Acting in accordance with the procedure laid down in Article 189c of the Treaty <sup>(3)</sup>,

1. Whereas the objectives and principles of the Community's environment policy, as set out in Article 130r of the Treaty, consist in particular of preventing, reducing and as far as possible eliminating pollution by giving priority to intervention at source and ensuring prudent management of natural resources, in compliance with the 'polluter pays' principle and the principle of pollution prevention;
2. Whereas the Fifth Environmental Action Programme, the broad outline of which was approved by the Council and the Representatives of the Governments of the Member States, meeting within the Council, in the resolution of 1 February 1993 on a Community programme of policy and action in relation to the environment and sustainable development <sup>(4)</sup>, accords priority to integrated pollution control as an important part of the move towards a more sustainable balance between human activity and socio-economic development, on the one hand, and the resources and regenerative capacity of nature, on the other;
3. Whereas the implementation of an integrated approach to reduce pollution requires action at Community level in order to modify and supplement existing Community legislation concerning the prevention and control of pollution from industrial plants;
4. Whereas Council Directive 84/360/EEC of 28 June 1984 on the combating of air pollution from industrial plants <sup>(5)</sup> introduced a general framework requiring authorization prior to any operation or substantial modification of industrial installations which may cause air pollution;
5. Whereas Council Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community <sup>(6)</sup> introduced an authorization requirement for the discharge of those substances;
6. Whereas, although Community legislation exists on the combating of air pollution and the prevention or minimization of the discharge of dangerous substances into water, there is no comparable Community legislation aimed at preventing or minimizing emissions into soil;
7. Whereas different approaches to controlling emissions into the air, water or soil separately may encourage the shifting of pollu-

<sup>(1)</sup> OJ No C 311, 17. 11. 1993, p. 6 and OJ No C 165, 1. 7. 1995, p. 9.

<sup>(2)</sup> OJ No C 195, 18. 7. 1995, p. 54.

<sup>(3)</sup> Opinion of the European Parliament of 14 December 1994 (OJ No C 18, 23. 1. 1995, p. 96), Council common position of 27 November 1995 (OJ No C 87, 25. 3. 1996, p. 8) and Decision of the European Parliament of 22 May 1996 (OJ No C 166, 10. 6. 1996).

<sup>(4)</sup> OJ No C 138, 17. 5. 1993, p. 1.

<sup>(5)</sup> OJ No L 188, 16. 7. 1984, p. 20. Directive as last amended by Directive 91/692/EEC (OJ No L 377, 31. 12. 1991, p. 48).

<sup>(6)</sup> OJ No L 129, 18. 5. 1976, p. 23. Directive as last amended by Directive 91/692/EEC.

## ▼B

- tion between the various environmental media rather than protecting the environment as a whole;
8. Whereas the objective of an integrated approach to pollution control is to prevent emissions into air, water or soil wherever this is practicable, taking into account waste management, and, where it is not, to minimize them in order to achieve a high level of protection for the environment as a whole;
  9. Whereas this Directive establishes a general framework for integrated pollution prevention and control; whereas it lays down the measures necessary to implement integrated pollution prevention and control in order to achieve a high level of protection for the environment as a whole; whereas application of the principle of sustainable development will be promoted by an integrated approach to pollution control;
  10. Whereas the provisions of this Directive apply without prejudice to the provisions of Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of public and private projects on the environment <sup>(1)</sup>; whereas, when information or conclusions obtained further to the application of that Directive have to be taken into consideration for the granting of authorization, this Directive does not affect the implementation of Directive 85/337/EEC;
  11. Whereas the necessary steps must be taken by the Member States in order to ensure that the operator of the industrial activities referred to in Annex I is complying with the general principles of certain basic obligations; whereas for that purpose it would suffice for the competent authorities to take those general principles into account when laying down the authorization conditions;
  12. Whereas some of the provisions adopted pursuant to this Directive must be applied to existing installations after a fixed period and others as from the date of implementation of this Directive;
  13. Whereas, in order to tackle pollution problems more effectively and efficiently, environmental aspects should be taken into consideration by the operator; whereas those aspects should be communicated to the competent authority or authorities so that they can satisfy themselves, before granting a permit, that all appropriate preventive or pollution-control measures have been laid down; whereas very different application procedures may give rise to different levels of environmental protection and public awareness; whereas, therefore, applications for permits under this Directive should include minimum data;
  14. Whereas full coordination of the authorization procedure and conditions between competent authorities will make it possible to achieve the highest practicable level of protection for the environment as a whole;
  15. Whereas the competent authority or authorities will grant or amend a permit only when integrated environmental protection measures for air, water and land have been laid down;
  16. Whereas the permit is to include all necessary measures to fulfil the authorization conditions in order thus to achieve a high level of protection for the environment as a whole; whereas, without prejudice to the authorization procedure, those measures may also be the subject of general binding requirements;
  17. Whereas emission limit values, parameters or equivalent technical measures should be based on the best available techniques, without prescribing the use of one specific technique or technology and taking into consideration the technical characteristics of the installation concerned, its geographical location and local environmental conditions; whereas in all cases the

<sup>(1)</sup> OJ No L 175, 5. 7. 1985, p. 40.

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- authorization conditions will lay down provisions on minimizing long-distance or transfrontier pollution and ensure a high level of protection for the environment as a whole;
18. Whereas it is for the Member States to determine how the technical characteristics of the installation concerned, its geographical location and local environmental conditions can, where appropriate, be taken into consideration;
  19. Whereas, when an environmental quality standard requires more stringent conditions than those that can be achieved by using the best available techniques, supplementary conditions will in particular be required by the permit, without prejudice to other measures that may be taken to comply with the environmental quality standards;
  20. Whereas, because best available techniques will change with time, particularly in the light of technical advances, the competent authorities must monitor or be informed of such progress;
  21. Whereas, changes to an installation may give rise to pollution; whereas the competent authority or authorities must therefore be notified of any change which might affect the environment; whereas substantial changes to plant must be subject to the granting of prior authorization in accordance with this Directive;
  22. Whereas the authorization conditions must be periodically reviewed and if necessary updated; whereas, under certain conditions, they will in any event be re-examined;
  23. Whereas, in order to inform the public of the operation of installations and their potential effect on the environment, and in order to ensure the transparency of the licensing process throughout the Community, the public must have access, before any decision is taken, to information relating to applications for permits for new installations or substantial changes and to the permits themselves, their updating and the relevant monitoring data;
  24. Whereas the establishment of an inventory of principal emissions and sources responsible may be regarded as an important instrument making it possible in particular to compare pollution activities in the Community; whereas such an inventory will be prepared by the Commission, assisted by a regulatory committee;
  25. Whereas the development and exchange of information at Community level about best available techniques will help to redress the technological imbalances in the Community, will promote the worldwide dissemination of limit values and techniques used in the Community and will help the Member States in the efficient implementation of this Directive;
  26. Whereas reports on the implementation and effectiveness of this Directive will have to be drawn up regularly;
  27. Whereas this Directive is concerned with installations whose potential for pollution, and therefore transfrontier pollution, is significant; whereas transboundary consultation is to be organized where applications relate to the licensing of new installations or substantial changes to installations which are likely to have significant negative environmental effects; whereas the applications relating to such proposals or substantial changes will be available to the public of the Member State likely to be affected;
  28. Whereas the need for action may be identified at Community level to lay down emission limit values for certain categories of installation and pollutant covered by this Directive; whereas the Council will set such emission limit values in accordance with the provisions of the Treaty;
  29. Whereas the provisions of this Directive apply without prejudice to Community provisions on health and safety at the workplace,





HAS ADOPTED THIS DIRECTIVE:

#### *Article 1*

##### **Purpose and scope**

The purpose of this Directive is to achieve integrated prevention and control of pollution arising from the activities listed in Annex I. It lays down measures designed to prevent or, where that is not practicable, to reduce emissions in the air, water and land from the abovementioned activities, including measures concerning waste, in order to achieve a high level of protection of the environment taken as a whole, without prejudice to Directive 85/337/EEC and other relevant Community provisions.

#### *Article 2*

##### **Definitions**

For the purposes of this Directive:

1. 'substance' shall mean any chemical element and its compounds, with the exception of radioactive substances within the meaning of Directive 80/836/Euratom<sup>(1)</sup> and genetically modified organisms within the meaning of Directive 90/219/EEC<sup>(2)</sup> and Directive 90/220/EEC<sup>(3)</sup>;
2. 'pollution' shall mean the direct or indirect introduction as a result of human activity, of substances, vibrations, heat or noise into the air, water or land which may be harmful to human health or the quality of the environment, result in damage to material property, or impair or interfere with amenities and other legitimate uses of the environment;
3. 'installation' shall mean a stationary technical unit where one or more activities listed in Annex I are carried out, and any other directly associated activities which have a technical connection with the activities carried out on that site and which could have an effect on emissions and pollution;
4. 'existing installation' shall mean an installation in operation or, in accordance with legislation existing before the date on which this Directive is brought into effect, an installation authorized or in the view of the competent authority the subject of a full request for authorization, provided that that installation is put into operation no later than one year after the date on which this Directive is brought into effect;
5. 'emission' shall mean the direct or indirect release of substances, vibrations, heat or noise from individual or diffuse sources in the installation into the air, water or land;
6. 'emission limit values' shall mean the mass, expressed in terms of certain specific parameters, concentration and/or level of an emission, which may not be exceeded during one or more periods of time. Emission limit values may also be laid down for certain groups, families or categories of substances, in particular for those listed in Annex III.

<sup>(1)</sup> Council Directive 80/836/Euratom of 15 July 1980 amending the Directives laying down the basic safety standards for the health protection of the general public and workers against the dangers of ionizing radiation (OJ No L 246, 17. 9. 1980, p. 1). Directive as amended by Directive 84/467/EEC (OJ No L 265, 5. 10. 1984, p. 4).

<sup>(2)</sup> Council Directive 90/219/EEC of 23 April 1990 on the contained use of genetically modified micro-organisms (OJ No L 117, 8. 5. 90, p. 1). Directive as amended by Commission Directive 94/51/EC (OJ No L 297, 18. 11. 1994, p. 29).

<sup>(3)</sup> Council Directive 90/220/EEC of 23 April 1990 on the deliberate release into the environment of genetically modified organisms (OJ No L 117, 8. 5. 1990, p. 15). Directive as amended by Commission Directive 94/15/EC (OJ No L 103, 22. 4. 1994, p. 20).

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The emission limit values for substances shall normally apply at the point where the emissions leave the installation, any dilution being disregarded when determining them. With regard to indirect releases into water, the effect of a water treatment plant may be taken into account when determining the emission limit values of the installation involved, provided that an equivalent level is guaranteed for the protection of the environment as a whole and provided this does not lead to higher levels of pollution in the environment, without prejudice to Directive 76/464/EEC or the Directives implementing it;

7. 'environmental quality standard' shall mean the set of requirements which must be fulfilled at a given time by a given environment or particular part thereof, as set out in Community legislation;
8. 'competent authority' shall mean the authority or authorities or bodies responsible under the legal provisions of the Member States for carrying out the obligations arising from this Directive;
9. 'permit' shall mean that part or the whole of a written decision (or several such decisions) granting authorization to operate all or part of an installation, subject to certain conditions which guarantee that the installation complies with the requirements of this Directive. A permit may cover one or more installations or parts of installations on the same site operated by the same operator;
10. (a) 'change in operation' shall mean a change in the nature or functioning, or an extension, of the installation which may have consequences for the environment;
- (b) 'substantial change' shall mean a change in operation which, in the opinion of the competent authority, may have significant negative effects on human beings or the environment.

**▼M1**

For the purposes of this definition, any change to or extension of an operation shall be deemed to be substantial if the change or extension in itself meets the thresholds, if any, set out in Annex I;

**▼B**

11. 'best available techniques' shall mean the most effective and advanced stage in the development of activities and their methods of operation which indicate the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole:
  - 'techniques' shall include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned,
  - 'available' techniques shall mean those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator,
  - 'best' shall mean most effective in achieving a high general level of protection of the environment as a whole.

In determining the best available techniques, special consideration should be given to the items listed in Annex IV;

12. 'operator' shall mean any natural or legal person who operates or controls the installation or, where this is provided for in national legislation, to whom decisive economic power over the technical functioning of the installation has been delegated;

**▼M1**

13. 'the public' shall mean one or more natural or legal persons and, in accordance with national legislation or practice, their associations, organisations or groups;

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14. 'the public concerned' shall mean the public affected or likely to be affected by, or having an interest in, the taking of a decision on the issuing or the updating of a permit or of permit conditions; for the purposes of this definition, non-governmental organisations promoting environmental protection and meeting any requirements under national law shall be deemed to have an interest.

▼ **B***Article 3***General principles governing the basic obligations of the operator**

Member States shall take the necessary measures to provide that the competent authorities ensure that installations are operated in such a way that:

- (a) all the appropriate preventive measures are taken against pollution, in particular through application of the best available techniques;
- (b) no significant pollution is caused;
- (c) waste production is avoided in accordance with Council Directive 75/442/EEC of 15 July 1975 on waste <sup>(1)</sup>; where waste is produced, it is recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment;
- (d) energy is used efficiently;
- (e) the necessary measures are taken to prevent accidents and limit their consequences;
- (f) the necessary measures are taken upon definitive cessation of activities to avoid any pollution risk and return the site of operation to a satisfactory state.

For the purposes of compliance with this Article, it shall be sufficient if Member States ensure that the competent authorities take account of the general principles set out in this Article when they determine the conditions of the permit.

*Article 4***Permits for new installations**

Member States shall take the necessary measures to ensure that no new installation is operated without a permit issued in accordance with this Directive, without prejudice to the exceptions provided for in Council Directive 88/609/EEC of 24 November 1988 on the limitation of emissions of certain pollutants into the air from large combustion plants <sup>(2)</sup>.

*Article 5***Requirements for the granting of permits for existing installations**

1. Member States shall take the necessary measures to ensure that the competent authorities see to it, by means of permits in accordance with Articles 6 and 8 or, as appropriate, by reconsidering and, where necessary, by updating the conditions, that existing installations operate in accordance with the requirements of Articles 3, 7, 9, 10, 13, the first and second indents of 14, and 15 (2) not later than eight years after the date on which this Directive is brought into effect, without prejudice to specific Community legislation.

2. Member States shall take the necessary measures to apply the provisions of Articles 1, 2, 11, 12, 14, third indent, 15 (1), (3) and (4), 16, 17 and 18 (2) to existing installations as from the date on which this Directive is brought into effect.

<sup>(1)</sup> OJ No L 194, 25. 7. 1975, p. 39. Directive as last amended by Directive 91/692/EEC (OJ No L 377, 31. 12. 1991, p. 48).

<sup>(2)</sup> OJ No L 336, 7. 12. 1988, p. 1. Directive as last amended by Directive 90/656/EEC (OJ No L 353, 17. 12. 1990, p. 59).



**▼B***Article 6***Applications for permits**

1. Member States shall take the necessary measures to ensure that an application to the competent authority for a permit includes a description of:

- the installation and its activities,
- the raw and auxiliary materials, other substances and the energy used in or generated by the installation,
- the sources of emissions from the installation,
- the conditions of the site of the installation,
- the nature and quantities of foreseeable emissions from the installation into each medium as well as identification of significant effects of the emissions on the environment,
- the proposed technology and other techniques for preventing or, where this not possible, reducing emissions from the installation,
- where necessary, measures for the prevention and recovery of waste generated by the installation,
- further measures planned to comply with the general principles of the basic obligations of the operator as provided for in Article 3,
- measures planned to monitor emissions into the environment,

**▼M1**

- the main alternatives, if any, studied by the applicant in outline.

**▼B**

An application for a permit shall also include a non-technical summary of the details referred to in the above indents.

2. Where information supplied in accordance with the requirements provided for in Directive 85/337/EEC or a safety report prepared in accordance with Council Directive 82/501/EEC of 24 June 1982 on the major-accident hazards of certain industrial activities<sup>(1)</sup> or other information produced in response to other legislation fulfils any of the requirements of this Article, that information may be included in, or attached to, the application.

*Article 7***Integrated approach to issuing permits**

Member States shall take the measures necessary to ensure that the conditions of, and procedure for the grant of, the permit are fully coordinated where more than one competent authority is involved, in order to guarantee an effective integrated approach by all authorities competent for this procedure.

*Article 8***Decisions**

Without prejudice to other requirements laid down in national or Community legislation, the competent authority shall grant a permit containing conditions guaranteeing that the installation complies with the requirements of this Directive or, if it does not, shall refuse to grant the permit.

All permits granted and modified permits must include details of the arrangements made for air, water and land protection as referred to in this Directive.

<sup>(1)</sup> OJ No L 230, 5. 8. 1982, p. 1. Directive as last amended by Directive 91/692/EEC (OJ No L 377, 31. 12. 1991, p. 48).

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*Article 9***Conditions of the permit**

1. Member States shall ensure that the permit includes all measures necessary for compliance with the requirements of Articles 3 and 10 for the granting of permits in order to achieve a high level of protection for the environment as a whole by means of protection of the air, water and land.

2. In the case of a new installation or a substantial change where Article 4 of Directive 85/337/EEC applies, any relevant information obtained or conclusion arrived at pursuant to Articles 5, 6 and 7 of that Directive shall be taken into consideration for the purposes of granting the permit.

3. The permit shall include emission limit values for pollutants, in particular, those listed in Annex III, likely to be emitted from the installation concerned in significant quantities, having regard to their nature and their potential to transfer pollution from one medium to another (water, air and land). If necessary, the permit shall include appropriate requirements ensuring protection of the soil and ground water and measures concerning the management of waste generated by the installation. Where appropriate, limit values may be supplemented or replaced by equivalent parameters or technical measures.

For installations under subheading 6.6 in Annex I, emission limit values laid down in accordance with this paragraph shall take into account practical considerations appropriate to these categories of installation.

## ▼M2

Where emissions of a greenhouse gas from an installation are specified in Annex I to Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC<sup>(1)</sup> in relation to an activity carried out in that installation, the permit shall not include an emission limit value for direct emissions of that gas unless it is necessary to ensure that no significant local pollution is caused.

For activities listed in Annex I to Directive 2003/87/EC, Member States may choose not to impose requirements relating to energy efficiency in respect of combustion units or other units emitting carbon dioxide on the site.

Where necessary, the competent authorities shall amend the permit as appropriate.

The three preceding subparagraphs shall not apply to installations temporarily excluded from the scheme for greenhouse gas emission allowance trading within the Community in accordance with Article 27 of Directive 2003/87/EC.

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4. Without prejudice to Article 10, the emission limit values and the equivalent parameters and technical measures referred to in paragraph 3 shall be based on the best available techniques, without prescribing the use of any technique or specific technology, but taking into account the technical characteristics of the installation concerned, its geographical location and the local environmental conditions. In all circumstances, the conditions of the permit shall contain provisions on the minimization of long-distance or transboundary pollution and ensure a high level of protection for the environment as a whole.

5. The permit shall contain suitable release monitoring requirements, specifying measurement methodology and frequency, evaluation procedure and an obligation to supply the competent authority with data required for checking compliance with the permit.

<sup>(1)</sup> OJ L 275, 25.10.2003, p. 32.

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For installations under subheading 6.6 in Annex I, the measures referred to in this paragraph may take account of costs and benefits.

6. The permit shall contain measures relating to conditions other than normal operating conditions. Thus, where there is a risk that the environment may be affected, appropriate provision shall be made for start-up, leaks malfunctions, momentary stoppages and definitive cessation of operations.

The permit may also contain temporary derogations from the requirements of paragraph 4 if a rehabilitation plan approved by the competent authority ensures that these requirements will be met within six months and if the project leads to a reduction of pollution.

7. The permit may contain such other specific conditions for the purposes of this Directive as the Member State or competent authority may think fit.

8. Without prejudice to the obligation to implement a permit procedure pursuant to this Directive, Member States may prescribe certain requirements for certain categories of installations in general binding rules instead of including them in individual permit conditions, provided that an integrated approach and an equivalent high level of environmental protection as a whole are ensured.

*Article 10***Best available techniques and environmental quality standards**

Where an environmental quality standard requires stricter conditions than those achievable by the use of the best available techniques, additional measures shall in particular be required in the permit, without prejudice to other measures which might be taken to comply with environmental quality standards.

*Article 11***Developments in best available techniques**

Member States shall ensure that the competent authority follows or is informed of developments in best available techniques.

*Article 12***Changes by operators to installations**

1. Member States shall take the necessary measures to ensure that the operator informs the competent authorities of any changes planned in the operation of the installation as referred to in Article 2 (10) (a). Where appropriate, the competent authorities shall update the permit or the conditions.

2. Member States shall take the necessary measures to ensure that no substantial change in the operation of the installation within the meaning of Article 2 (10) (b) planned by the operator is made without a permit issued in accordance with this Directive. The application for a permit and the decision by the competent authority must cover those parts of the installation and those aspects listed in Article 6 that may be affected by the change. The relevant provisions of Articles 3 and 6 to 10 and Article 15 (1), (2) and (4) shall apply *mutatis mutandis*.

*Article 13***Reconsideration and updating of permit conditions by the competent authority**

1. Member States shall take the necessary measures to ensure that competent authorities periodically reconsider and, where necessary, update permit conditions.

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2. The reconsideration shall be undertaken in any event where:
- the pollution caused by the installation is of such significance that the existing emission limit values of the permit need to be revised or new such values need to be included in the permit,
  - substantial changes in the best available techniques make it possible to reduce emissions significantly without imposing excessive costs,
  - the operational safety of the process or activity requires other techniques to be used,
  - new provisions of Community or national legislation so dictate.

*Article 14***Compliance with permit conditions**

Member States shall take the necessary measures to ensure that:

- the conditions of the permit are complied with by the operator when operating the installation,
- the operator regularly informs the competent authority of the results of the monitoring of releases and without delay of any incident or accident significantly affecting the environment,
- operators of installations afford the representatives of the competent authority all necessary assistance to enable them to carry out any inspections within the installation, to take samples and to gather any information necessary for the performance of their duties for the purposes of this Directive.

*Article 15***Access to information and public participation in the permit procedure****▼M1**

1. Member States shall ensure that the public concerned are given early and effective opportunities to participate in the procedure for:
- issuing a permit for new installations,
  - issuing a permit for any substantial change in the operation of an installation,
  - updating of a permit or permit conditions for an installation in accordance with Article 13, paragraph 2, first indent.

The procedure set out in Annex V shall apply for the purposes of such participation.

**▼B**

2. The results of monitoring of releases as required under the permit conditions referred to in Article 9 and held by the competent authority must be made available to the public.

3. An inventory of the principal emissions and sources responsible shall be published every three years by the Commission on the basis of the data supplied by the Member States. The Commission shall establish the format and particulars needed for the transmission of information in accordance with the procedure laid down in Article 19.

In accordance with the same procedure, the Commission may propose measures to ensure inter-comparability and complementarity between data concerning the inventory of emissions referred to in the first subparagraph and data from other registers and sources of data on emissions.

4. Paragraphs 1, 2 and 3 shall apply subject to the restrictions laid down in Article 3 (2) and (3) of Directive 90/313/EEC.

**▼M1**

5. When a decision has been taken, the competent authority shall inform the public in accordance with the appropriate procedures and shall make available to the public the following information:

- (a) the content of the decision, including a copy of the permit and of any conditions and any subsequent updates; and



▼ M1

- (b) having examined the concerns and opinions expressed by the public concerned, the reasons and considerations on which the decision is based, including information on the public participation process.

*Article 15a***Access to justice**

Member States shall ensure that, in accordance with the relevant national legal system, members of the public concerned:

- (a) having a sufficient interest, or alternatively,
- (b) maintaining the impairment of a right, where administrative procedural law of a Member State requires this as a precondition;

have access to a review procedure before a court of law or another independent and impartial body established by law to challenge the substantive or procedural legality of decisions, acts or omissions subject to the public participation provisions of this Directive.

Member States shall determine at what stage the decisions, acts or omissions may be challenged.

What constitutes a sufficient interest and impairment of a right shall be determined by the Member States, consistently with the objective of giving the public concerned wide access to justice. To this end, the interest of any non-governmental organisation meeting the requirements referred to in Article 2(14) shall be deemed sufficient for the purpose of subparagraph (a) of this Article. Such organisations shall also be deemed to have rights capable of being impaired for the purpose of subparagraph (b) of this Article.

The provisions of this Article shall not exclude the possibility of a preliminary review procedure before an administrative authority and shall not affect the requirement of exhaustion of administrative review procedures prior to recourse to judicial review procedures, where such a requirement exists under national law.

Any such procedure shall be fair, equitable, timely and not prohibitively expensive.

In order to further the effectiveness of the provisions of this Article, Member States shall ensure that practical information is made available to the public on access to administrative and judicial review procedures.

▼ B*Article 16***Exchange of information**

1. With a view to exchanging information, Member States shall take the necessary measures to send the Commission every three years, and for the first time within 18 months of the date on which this Directive is brought into effect, the available representative data on the limit values laid down by specific category of activities in accordance with Annex I and, if appropriate, the best available techniques from which those values are derived in accordance with, in particular, Article 9. On subsequent occasions the data shall be supplemented in accordance with the procedures laid down in paragraph 3 of this Article.

2. The Commission shall organize an exchange of information between Member States and the industries concerned on best available techniques, associated monitoring, and developments in them. Every three years the Commission shall publish the results of the exchanges of information.

3. Reports on the implementation of this Directive and its effectiveness compared with other Community environmental instruments shall be established in accordance with the procedure laid down in Articles 5 and 6 of Directive 91/692/EEC. The first report shall cover the three years following the date on which this present Directive is brought

**▼B**

into effect as referred to in Article 21. The Commission shall submit the report to the Council, accompanied by proposals if necessary.

4. Member States shall establish or designate the authority or authorities which are to be responsible for the exchange of information under paragraphs 1, 2 and 3 and shall inform the Commission accordingly.

*Article 17***Transboundary effects****▼M1**

1. Where a Member State is aware that the operation of an installation is likely to have significant negative effects on the environment of another Member State, or where a Member State likely to be significantly affected so requests, the Member State in whose territory the application for a permit pursuant to Article 4 or Article 12(2) was submitted shall forward to the other Member State any information required to be given or made available pursuant to Annex V at the same time as it makes it available to its own nationals. Such information shall serve as a basis for any consultations necessary in the framework of the bilateral relations between the two Member States on a reciprocal and equivalent basis.

**▼B**

2. Within the framework of their bilateral relations, Member States shall see to it that in the cases referred to in paragraph 1 the applications are also made available for an appropriate period of time to the public of the Member State likely to be affected so that it will have the right to comment on them before the competent authority reaches its decision.

**▼M1**

3. The results of any consultations pursuant to paragraphs 1 and 2 must be taken into consideration when the competent authority reaches a decision on the application.

4. The competent authority shall inform any Member State, which has been consulted pursuant to paragraph 1, of the decision reached on the application and shall forward to it the information referred to in Article 15(5). That Member State shall take the measures necessary to ensure that that information is made available in an appropriate manner to the public concerned in its own territory.

**▼B***Article 18***Community emission limit values**

1. Acting on a proposal from the Commission, the Council will set emission limit values, in accordance with the procedures laid down in the Treaty, for:

- the categories of installations listed in Annex I except for the landfills covered by categories 5.1 and 5.4 of that Annex,
- and
- the polluting substances referred to in Annex III,

for which the need for Community action has been identified, on the basis, in particular, of the exchange of information provided for in Article 16.

2. In the absence of Community emission limit values defined pursuant to this Directive, the relevant emission limit values contained in the Directives referred to in Annex II and in other Community legislation shall be applied as minimum emission limit values pursuant to this Directive for the installations listed in Annex I.

Without prejudice to the requirements of this Directive, the technical requirements applicable for the landfills covered by categories 5.1 and 5.4 of Annex I, shall be fixed by the Council, acting on a proposal by the Commission, in accordance with the procedures laid down in the Treaty.

## ▼M3

*Article 19***Committee procedure**

1. The Commission shall be assisted by a committee.
2. Where reference is made to this Article, Articles 5 and 7 of Decision 1999/468/EC <sup>(1)</sup> shall apply, having regard to the provisions of Article 8 thereof.

The period laid down in Article 5(6) of Decision 1999/468/EC shall be set at three months.

3. The Committee shall adopt its rules of procedure.

## ▼B

*Article 20***Transitional provisions**

1. The provisions of Directive 84/360/EEC, the provisions of Articles 3, 5, 6 (3) and 7 (2) of Directive 76/464/EEC and the relevant provisions concerning authorization systems in the Directives listed in Annex II shall apply, without prejudice to the exceptions provided for in Directive 88/609/EEC, to existing installations in respect of activities listed in Annex I until the measures required pursuant to Article 5 of this Directive have been taken by the competent authorities.
2. The relevant provisions concerning authorization systems in the Directives referred to in paragraph 1 shall not apply to installations which are new in respect of the activities listed in Annex I on the date on which this Directive is brought into effect.
3. Directive 84/360/EEC shall be repealed 11 years after the date of entry into force of this Directive.

As soon as the measures provided for in Article 4, 5 or 12 have been taken in respect of an installation, the exception provided for in Article 6 (3) of Directive 76/464/EEC shall no longer apply to installations covered by this Directive.

Acting on a proposal from the Commission, the Council shall, where necessary, amend the relevant provisions of the Directives referred to in Annex II in order to adapt them to the requirements of this Directive before the date of repeal of Directive 84/360/EEC, referred to in the first subparagraph.

*Article 21***Bringing into effect**

1. Member States shall adopt the laws, regulations and administrative provisions necessary to comply with this Directive no later than three years after its entry into force. They shall forthwith inform the Commission thereof.

When Member States adopt these measures, they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication. The methods of making such reference shall be laid down by Member States.

2. Member States shall communicate to the Commission the texts of the main provisions of national law which they adopt in the field covered by this Directive.

*Article 22*

This Directive shall enter into force on the 20th day following its publication.

<sup>(1)</sup> Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission (OJ L 184, 17.7.1999, p. 23).

▼B

*Article 23*

This Directive is addressed to the Member States.



## ▼B

## ANNEX I

CATEGORIES OF INDUSTRIAL ACTIVITIES REFERRED TO IN  
ARTICLE 1

1. Installations or parts of installations used for research, development and testing of new products and processes are not covered by this Directive.
  2. The threshold values given below generally refer to production capacities or outputs. Where one operator carries out several activities falling under the same subheading in the same installation or on the same site, the capacities of such activities are added together.
1. **Energy industries**
    - 1.1. Combustion installations with a rated thermal input exceeding 50 MW <sup>(1)</sup>
    - 1.2. Mineral oil and gas refineries
    - 1.3. Coke ovens
    - 1.4. Coal gasification and liquefaction plants
  2. **Production and processing of metals**
    - 2.1. Metal ore (including sulphide ore) roasting or sintering installations
    - 2.2. Installations for the production of pig iron or steel (primary or secondary fusion) including continuous casting, with a capacity exceeding 2,5 tonnes per hour
    - 2.3. Installations for the processing of ferrous metals:
      - (a) hot-rolling mills with a capacity exceeding 20 tonnes of crude steel per hour
      - (b) smitheries with hammers the energy of which exceeds 50 kilojoule per hammer, where the calorific power used exceeds 20 MW
      - (c) application of protective fused metal coats with an input exceeding 2 tonnes of crude steel per hour
    - 2.4. Ferrous metal foundries with a production capacity exceeding 20 tonnes per day
    - 2.5. Installations
      - (a) for the production of non-ferrous crude metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic processes
      - (b) for the smelting, including the alloyage, of non-ferrous metals, including recovered products, (refining, foundry casting, etc.) with a melting capacity exceeding 4 tonnes per day for lead and cadmium or 20 tonnes per day for all other metals
    - 2.6. Installations for surface treatment of metals and plastic materials using an electrolytic or chemical process where the volume of the treatment vats exceeds 30 m<sup>3</sup>
  3. **Mineral industry**
    - 3.1. Installations for the production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or lime in rotary kilns with a production capacity exceeding 50 tonnes per day or in other furnaces with a production capacity exceeding 50 tonnes per day
    - 3.2. Installations for the production of asbestos and the manufacture of asbestos-based products
    - 3.3. Installations for the manufacture of glass including glass fibre with a melting capacity exceeding 20 tonnes per day
    - 3.4. Installations for melting mineral substances including the production of mineral fibres with a melting capacity exceeding 20 tonnes per day
    - 3.5. Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a

<sup>(1)</sup> The material requirements of Directive 88/609/EEC for existing installations still apply until 31 December 2003.

**▼B**

production capacity exceeding 75 tonnes per day, and/or with a kiln capacity exceeding 4 m<sup>3</sup> and with a setting density per kiln exceeding 300 kg/m<sup>3</sup>

**4. Chemical industry**

Production within the meaning of the categories of activities contained in this section means the production on an industrial scale by chemical processing of substances or groups of substances listed in Sections 4.1 to 4.6

**4.1. Chemical installations for the production of basic organic chemicals, such as:**

- (a) simple hydrocarbons (linear or cyclic, saturated or unsaturated, aliphatic or aromatic)
- (b) oxygen-containing hydrocarbons such as alcohols, aldehydes, ketones, carboxylic acids, esters, acetates, ethers, peroxides, epoxy resins
- (c) sulphurous hydrocarbons
- (d) nitrogenous hydrocarbons such as amines, amides, nitrous compounds, nitro compounds or nitrate compounds, nitriles, cyanates, isocyanates
- (e) phosphorus-containing hydrocarbons
- (f) halogenic hydrocarbons
- (g) organometallic compounds
- (h) basic plastic materials (polymers synthetic fibres and cellulose-based fibres)
- (i) synthetic rubbers
- (j) dyes and pigments
- (k) surface-active agents and surfactants

**4.2. Chemical installations for the production of basic inorganic chemicals, such as:**

- (a) gases, such as ammonia, chlorine or hydrogen chloride, fluorine or hydrogen fluoride, carbon oxides, sulphur compounds, nitrogen oxides, hydrogen, sulphur dioxide, carbonyl chloride
- (b) acids, such as chromic acid, hydrofluoric acid, phosphoric acid, nitric acid, hydrochloric acid, sulphuric acid, oleum, sulphurous acids
- (c) bases, such as ammonium hydroxide, potassium hydroxide, sodium hydroxide
- (d) salts, such as ammonium chloride, potassium chlorate, potassium carbonate, sodium carbonate, perborate, silver nitrate
- (e) non-metals, metal oxides or other inorganic compounds such as calcium carbide, silicon, silicon carbide

**4.3. Chemical installations for the production of phosphorous-, nitrogen- or potassium-based fertilizers (simple or compound fertilizers)****4.4. Chemical installations for the production of basic plant health products and of biocides****4.5. Installations using a chemical or biological process for the production of basic pharmaceutical products****4.6. Chemical installations for the production of explosives****5. Waste management**

Without prejudice of Article 11 of Directive 75/442/EEC or Article 3 of Council Directive 91/689/EEC of 12 December 1991 on hazardous waste <sup>(1)</sup>:

**5.1. Installations for the disposal or recovery of hazardous waste as defined in the list referred to in Article 1 (4) of Directive 91/689/EEC, as defined in Annexes II A and II B (operations R1, R5, R6, R8 and R9) to Directive 75/442/EEC and in Council Directive 75/439/EEC of 16 June 1975 on the disposal of waste oils <sup>(2)</sup>, with a capacity exceeding 10 tonnes per day**

<sup>(1)</sup> OJ No L 377, 31. 12. 1991, p. 20. Directive as amended by Directive 94/31/EC (OJ No L 168, 2. 7. 1994, p. 28).

<sup>(2)</sup> OJ No L 194, 25. 7. 1975, p. 23. Directive as last amended by Directive 91/692/EEC (OJ No L 377, 31. 12. 1991, p. 48).

## ▼B

- 5.2. Installations for the incineration of municipal waste as defined in Council Directive 89/369/EEC of 8 June 1989 on the prevention of air pollution from new municipal waste incineration plants<sup>(1)</sup> and Council Directive 89/429/EEC of 21 June 1989 on the reduction of air pollution from existing municipal waste-incineration plants<sup>(2)</sup> with a capacity exceeding 3 tonnes per hour
- 5.3. Installations for the disposal of non-hazardous waste as defined in Annex II A to Directive 75/442/EEC under headings D8 and D9, with a capacity exceeding 50 tonnes per day
- 5.4. Landfills receiving more than 10 tonnes per day or with a total capacity exceeding 25 000 tonnes, excluding landfills of inert waste
6. **Other activities**
  - 6.1. Industrial plants for the production of:
    - (a) pulp from timber or other fibrous materials
    - (b) paper and board with a production capacity exceeding 20 tonnes per day
  - 6.2. Plants for the pre-treatment (operations such as washing, bleaching, mercerization) or dyeing of fibres or textiles where the treatment capacity exceeds 10 tonnes per day
  - 6.3. Plants for the tanning of hides and skins where the treatment capacity exceeds 12 tonnes of finished products per day
  - 6.4. (a) Slaughterhouses with a carcase production capacity greater than 50 tonnes per day
    - (b) Treatment and processing intended for the production of food products from:
      - animal raw materials (other than milk) with a finished product production capacity greater than 75 tonnes per day
      - vegetable raw materials with a finished product production capacity greater than 300 tonnes per day (average value on a quarterly basis)
    - (c) Treatment and processing of milk, the quantity of milk received being greater than 200 tonnes per day (average value on an annual basis)
  - 6.5. Installations for the disposal or recycling of animal carcases and animal waste with a treatment capacity exceeding 10 tonnes per day
  - 6.6. Installations for the intensive rearing of poultry or pigs with more than:
    - (a) 40 000 places for poultry
    - (b) 2 000 places for production pigs (over 30 kg), or
    - (c) 750 places for sows
  - 6.7. Installations for the surface treatment of substances, objects or products using organic solvents, in particular for dressing, printing, coating, degreasing, waterproofing, sizing, painting, cleaning or impregnating, with a consumption capacity of more than 150 kg per hour or more than 200 tonnes per year
  - 6.8. Installations for the production of carbon (hard-burnt coal) or electrographite by means of incineration or graphitization

<sup>(1)</sup> OJ No L 163, 14. 6. 1989, p. 32.

<sup>(2)</sup> OJ No L 203, 15. 7. 1989, p. 50.



## ANNEX II

**LIST OF THE DIRECTIVES REFERRED TO IN ARTICLES 18 (2) AND 20**

1. Directive 87/217/EEC on the prevention and reduction of environmental pollution by asbestos
2. Directive 82/176/EEC on limit values and quality objectives for mercury discharges by the chlor-alkali electrolysis industry
3. Directive 83/513/EEC on limit values and quality objectives for cadmium discharges
4. Directive 84/156/EEC on limit values and quality objectives for mercury discharges by sectors other than the chlor-alkali electrolysis industry
5. Directive 84/491/EEC on limit values and quality objectives for discharges of hexachlorocyclohexane
6. Directive 86/280/EEC on limit values and quality objectives for discharges of certain dangerous substances included in List 1 of the Annex to Directive 76/464/EEC, subsequently amended by Directives 88/347/EEC and 90/415/EEC amending Annex II to Directive 86/280/EEC
7. Directive 89/369/EEC on the prevention of air pollution from new municipal waste-incineration plants
8. Directive 89/429/EEC on the reduction of air pollution from existing municipal waste-incineration plants
9. Directive 94/67/EC on the incineration of hazardous waste
10. Directive 92/112/EEC on procedures for harmonizing the programmes for the reduction and eventual elimination of pollution caused by waste from the titanium oxide industry
11. Directive 88/609/EEC on the limitation of emissions of certain pollutants into the air from large combustion plants, as last amended by Directive 94/66/EC
12. Directive 76/464/EEC on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community
13. Directive 75/442/EEC on waste, as amended by Directive 91/156/EEC
14. Directive 75/439/EEC on the disposal of waste oils
15. Directive 91/689/EEC on hazardous waste



## ANNEX III

**INDICATIVE LIST OF THE MAIN POLLUTING SUBSTANCES TO BE  
TAKEN INTO ACCOUNT IF THEY ARE RELEVANT FOR FIXING  
EMISSION LIMIT VALUES****AIR**

1. Sulphur dioxide and other sulphur compounds
2. Oxides of nitrogen and other nitrogen compounds
3. Carbon monoxide
4. Volatile organic compounds
5. Metals and their compounds
6. Dust
7. Asbestos (suspended particulates, fibres)
8. Chlorine and its compounds
9. Fluorine and its compounds
10. Arsenic and its compounds
11. Cyanides
12. Substances and preparations which have been proved to possess carcinogenic or mutagenic properties or properties which may affect reproduction via the air
13. Polychlorinated dibenzodioxins and polychlorinated dibenzofurans

**WATER**

1. Organohalogen compounds and substances which may form such compounds in the aquatic environment
2. Organophosphorus compounds
3. Organotin compounds
4. Substances and preparations which have been proved to possess carcinogenic or mutagenic properties or properties which may affect reproduction in or via the aquatic environment
5. Persistent hydrocarbons and persistent and bioaccumulable organic toxic substances
6. Cyanides
7. Metals and their compounds
8. Arsenic and its compounds
9. Biocides and plant health products
10. Materials in suspension
11. Substances which contribute to eutrophication (in particular, nitrates and phosphates)
12. Substances which have an unfavourable influence on the oxygen balance (and can be measured using parameters such as BOD, COD, etc.).

## ▼B

## ANNEX IV

Considerations to be taken into account generally or in specific cases when determining best available techniques, as defined in Article 2 (11), bearing in mind the likely costs and benefits of a measure and the principles of precaution and prevention:

1. the use of low-waste technology;
2. the use of less hazardous substances;
3. the furthering of recovery and recycling of substances generated and used in the process and of waste, where appropriate;
4. comparable processes, facilities or methods of operation which have been tried with success on an industrial scale;
5. technological advances and changes in scientific knowledge and understanding;
6. the nature, effects and volume of the emissions concerned;
7. the commissioning dates for new or existing installations;
8. the length of time needed to introduce the best available technique;
9. the consumption and nature of raw materials (including water) used in the process and their energy efficiency;
10. the need to prevent or reduce to a minimum the overall impact of the emissions on the environment and the risks to it;
11. the need to prevent accidents and to minimize the consequences for the environment;
12. the information published by the Commission pursuant to Article 16 (2) or by international organizations.



## ▼ M1

## ANNEX V

**Public participation in decision-making**

1. The public shall be informed (by public notices or other appropriate means such as electronic media where available) of the following matters early in the procedure for the taking of a decision or, at the latest, as soon as the information can reasonably be provided:
  - (a) the application for a permit or, as the case may be, the proposal for the updating of a permit or of permit conditions in accordance with Article 15(1), including the description of the elements listed in Article 6(1);
  - (b) where applicable, the fact that a decision is subject to a national or trans-boundary environmental impact assessment or to consultations between Member States in accordance with Article 17;
  - (c) details of the competent authorities responsible for taking the decision, those from which relevant information can be obtained, those to which comments or questions can be submitted, and details of the time schedule for transmitting comments or questions;
  - (d) the nature of possible decisions or, where there is one, the draft decision;
  - (e) where applicable, the details relating to a proposal for the updating of a permit or of permit conditions;
  - (f) an indication of the times and places where, or means by which, the relevant information will be made available;
  - (g) details of the arrangements for public participation and consultation made pursuant to point 5.
2. Member States shall ensure that, within appropriate time-frames, the following is made available to the public concerned:
  - (a) in accordance with national legislation, the main reports and advice issued to the competent authority or authorities at the time when the public concerned were informed in accordance with point 1;
  - (b) in accordance with the provisions of Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information<sup>(1)</sup>, information other than that referred to in point 1 which is relevant for the decision in accordance with Article 8 and which only becomes available after the time the public concerned was informed in accordance with point 1.
3. The public concerned shall be entitled to express comments and opinions to the competent authority before a decision is taken.
4. The results of the consultations held pursuant to this Annex must be taken into due account in the taking of a decision.
5. The detailed arrangements for informing the public (for example by bill posting within a certain radius or publication in local newspapers) and consulting the public concerned (for example by written submissions or by way of a public inquiry) shall be determined by the Member States. Reasonable time-frames for the different phases shall be provided, allowing sufficient time for informing the public and for the public concerned to prepare and participate effectively in environmental decision-making subject to the provisions of this Annex.

<sup>(1)</sup> OJ L 41, 14.2.2003, p. 26.

# **APPENDIX C**

## **UK POLLUTION PREVENTION AND CONTROL ACT 1999**

### **(OUTLINE)**

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#### **Pollution Prevention and Control Act 1999<sup>1</sup>**

##### **Chapter 24**

### **Arrangement of Sections**

**SECTION 1: GENERAL PURPOSE OF SECTION 2 AND DEFINITIONS**

**SECTION 2: REGULATION OF POLLUTING ACTIVITIES**

**SECTION 3: PREVENTION ETC. OF POLLUTION AFTER ACCIDENTS INVOLVING OFFSHORE INSTALLATIONS**

**SECTION 4: TIME-LIMITED DISPOSAL OR WASTE MANAGEMENT LICENSES**

**SECTION 5: APPLICATION TO WALES AND SCOTLAND**

**SECTION 6: CONSEQUENTIAL AND MINOR AMENDMENTS AND REPEALS**

**SECTION 7: SHORT TITLE, INTERPRETATION, COMMENCEMENT AND EXTENT**

**SCHEDULE 1: PARTICULAR PURPOSES FOR WHICH PROVISION MAY BE MADE UNDER SECTION 2**

Part I: List of Purposes

Part II: Supplementary Provisions

**SCHEDULE 2: CONSEQUENTIAL AND MINOR AMENDMENTS**

**SCHEDULE 3: REPEALS**

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<sup>1</sup> <http://www.opsi.gov.uk/ACTS/acts1999/19990024.htm>





# APPENDIX D

## INTEGRATED REGULATION – EXPERIENCES OF IPPC IN ENGLAND AND WALES

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### Integrated regulation – experiences of IPPC in England and Wales

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#### Keywords

BAT; emissions; industry; integrated; IPPC; permitting; PPC; regulation.

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#### Abstract

Environmental regulators around the world are seeking out new ways to regulate polluting industries that can deliver higher levels of environmental protection without increasing overall cost. Integrated regulation has been shown to offer many advantages over traditional single-media approaches and this has led to its widespread uptake across the European Union (EU). The United Kingdom (UK) is seen as a leader in the field, having been progressing towards full integration for over 15 years. This paper seeks to share some of the experiences gained by the Environment Agency for England and Wales, with others struggling with the complex policy, technical and legal issues that will be encountered along the way.

#### Introduction

Historically, pollution control in the United Kingdom (UK) and many other countries has been through a range of single-media regimes, designed to control end-of-pipe emissions. These have usually been based on a system of permits allowing industry to release pollutants up to preset environmental limits.

While providing basic environmental protection, single-media regulation does not take into account the complex interrelationships that exist between environmental media. This means that judgements cannot readily be made on the receiving capacity of the different media to a suite of emissions. There is also a possibility of strong regulatory control in one media resulting in emissions being shifted to a less well-protected media. This was borne out by the findings of the 5th Royal Commission on Environmental Pollution Report (1976). Some problems with single-media regulation also apply to multi-media regulation, that is the permit imposes limits on emissions to each media but does not specifically consider their interrelationships.

True integrated regulation moves beyond multimedia permitting, to a regulatory system that extends the control from emissions to a wider range of environmental effects including resource efficiency, nuisance (e.g. noise and odour), and soil and groundwater protection. This approach addresses the full range of environmental issues that make up the environmental footprint of a facility, focusing particularly on pollution prevention. It also goes beyond permitting, looking at the full regulatory cycle including compliance, enforcement and review.

#### Pollution control in the UK – the journey towards integrated regulation

Until the 1970s, pollution control in the UK was characterised by a range of disconnected legislation concerned with controlling releases to specific media, regulated by different bodies. Legislation had mainly been formed in reaction to specific problems; for example, the Clean Air Act 1956 was introduced following the London smogs of 1952. The lack of a coherent approach led to piecemeal legislation, as well as a fragmented allocation of duties and responsibilities. This was confusing for industry, the regulators and the public.

The 1976 Royal Commission recommended that a single unified body be set up to administer integrated regulatory controls and that the concept of the best practicable environmental option (BPEO) should be adopted. This would allow the environmental outcomes of a process to be assessed and emissions made to the environmental media which would lead to least overall damage to the environment.

The creation of Her Majesty's Inspectorate of Pollution (HMIP) as the unified regulator allowed the development of the UK's first 'integrated' approach to pollution control (IPC) through the Environmental Protection Act 1990. Many elements of IPC drew on previous legislation, notably the Alkali Works Act 1906 and the Health and Safety at Work Act 1974. The industrial sectors regulated by IPC were largely derived from those covered in previous legislation.

The basis of IPC was that an industrial operator required an authorisation to operate a prescribed process,

and that a range of factors should be considered when determining an authorisation, including the impact of releases on all three media (air, water and, to a lesser extent, land). IPC also introduced the concept that BATNEEC (best available techniques not entailing excessive cost) should be applied to each element of a process. This built on the best practicable means (BPM) approach, as well as the requirement that the BPEO should be applied when considering the effect of releases to the environment as a whole (i.e. across all media). IPC was implemented in England and Wales between 1991 and 1996, following a phased timetable for applications, according to the industrial sector.

Although IPC controlled releases to three media, the generation of waste was not expressly considered and waste disposal remained under the control of the Waste Regulation Authorities. In addition, IPC focused on air emissions, probably reflecting the background and expertise of HMIP's inspectors. Water emissions continued to be controlled mostly through existing discharge consents. The prevention of emissions to land was largely ignored, for example there was little guidance on the containment of chemicals.

Although IPC may not have established full integration, it was a significant step and established three important principles:

1. Setting emission limits for a particular site based on the lowest levels that could cost effectively be achieved through the use of the BATNEEC.
2. The periodic review of authorisations so that emissions could be reduced as technological advances allowed.
3. The introduction of cross-media permitting to industry.

### The Integrated Pollution Prevention and Control Directive

In 1996, the European Commission (EC), building on the UK's IPC, adopted the Integrated Pollution Prevention and Control Directive (IPPC) [96/61/EC].

Article 1 defines its purpose as:

... to achieve integrated pollution prevention and control of pollution arising from activities listed in Annex I. It lays down measures to prevent, or where that is not practicable, to reduce emissions in the air, water and land from the above mentioned activities, including measures concerning waste, in order to achieve a high level of protection of the environment taken as a whole ...

The Directive's aims are achieved through a system of integrated regulation in member states. Permits are based on the application of the best available techniques (BAT) and control emissions to all three environmental media,

as well as raw material and energy use, waste generation, noise and odour, and protection of soils and groundwater.

The EC has established bodies to identify BAT, produce guidance and clarify areas of uncertainty in the Directive. The Information Exchange Forum (IEF) is made up of member states' representatives who agree on the programme for, and extent of, BAT reference documents (BREFs), which are produced by the European IPPC Bureau in Seville by expert secondees from the member states. There is also an IPPC Experts Group (IEG), which debates areas of uncertainty in the Directive and provides guidance to the EC. IMPEL, a European Union (EU)-wide regulator's network, also works to promote best practice across the EU. The purpose of all these groups is to promote a level playing field and a consistent approach across the EU. The UK is represented in these groups and has played a key role in the production of BREF documents.

### UK implementation of IPPC

In the UK, the IPPC Directive is implemented through the Pollution Prevention and Control Act 1999 and relevant regulations – the PPC regime. In England and Wales the principal regulator is the Environment Agency, with local authorities responsible for some lower risk installations. Scotland and Northern Ireland have slightly different arrangements.

The most significant change from IPC to PPC is the coverage. It is extended from just emissions to wider environmental impacts, resource and energy use, noise and odour, and soil and groundwater protection. In addition, the new regime covers whole installations rather than discrete processes, and the range of sectors has been broadened to include industries such as food and drink and intensive agriculture.

In the UK, PPC is being phased in by sector between 2001 and 2007. By April 2006, approximately half of the forecast 4000 permits had been issued by the Environment Agency.

Under PPC, the operator of an existing industrial activity that falls under the regulations is required to submit an application within a specified period. New or substantially changed installations must obtain a permit before they can operate. Applications must contain details of the installation, its surroundings, resource use, techniques, management and ground conditions. In addition, details of the emissions and their control, and effect on environment and human health must be provided.

The application is made available for public scrutiny and the regulator consults relevant statutory bodies. In determining the application, the regulator considers whether the operator is using BAT to minimise emissions

and whether BPEO has been applied. If acceptable, a permit containing emission limits, operational controls, monitoring and reporting requirements and improvement conditions is issued to the operator. Compliance with the permit conditions is monitored and the permit is reviewed periodically to reflect developments in technology and the operation of the installation. Before an installation can close, the operator has to demonstrate that the condition of the site is no worse than it was when the permit was first issued.

### The UK's experience of implementing integrated regulation

The UK experience has shown that having a single institution responsible for the implementation of integrated regulation has been crucial to success. A close working relationship between the regulator and the government in the development of regulations was regarded as essential by both parties, and led to the production of more effective, workable legislation.

Implementation of PPC within the Environment Agency was initially by a formal project, overseen by a board of senior managers from across the organisation. The Project Board remained in place until the regime was fully developed, at which point operational implementation transferred to a policy team and mainstream operations.

### Critical factors

Accurate workload planning is a key factor in the successful implementation of a major new regime. Implementation involves substantial staff resource for policy development, communications and guidance development, to administer and determine permits and carry out compliance and enforcement. Accurate forecasting of the workload has been difficult and resource intensive, particularly for new sectors, because of the scarcity of information and the reluctance of some stakeholders to be fully engaged in the process.

Phasing the introduction of the regime by industrial sector over the period 2001–2007 has been essential to spread the workload and was a lesson learnt from the introduction of IPC. Some other European countries have not adopted sectoral phasing, with the result that many permits will need to be produced in 2007. This will create a significant peak in workload for the regulators and risks them failing to comply with the Directive time scale, potentially resulting in infraction proceedings.

Although sectoral phasing has helped, there are still significant peaks in workload, notably in 2006/2007 when large sectors, such as combustion and intensive farming, come into PPC. The initial sectoral program was

largely based on the programme for the BREFs. UK PPC sector guidance is based on the BREF documents, so wherever possible implementation dates were structured to fit in with proposed BREF delivery dates. Unfortunately, delays in BREF production have meant that some sectors have reached their application window before the relevant BREF is complete. This has led to uncertainty over what constitutes BAT for the sector.

Other factors were also considered, including:

- the need for experienced industries to go through a new regime first to ease the learning process on both sides;
- the need to allow industries previously unregulated under IPC time to make improvements and understand the PPC process;
- a desire to meet the upswing of business cycles in certain industries, which would make securing improvements easier for all concerned;
- a desire to bring more potentially polluting industries under the new regime earlier than less polluting industrial sectors.

### Policy and technical support

Another key element in the successful implementation of integrated regulation is the provision of guidance that clearly describes the information that is required from applicants and defines technical requirements for industry, the public and regulators. The provision of clear guidance adds transparency to the process, improving public confidence and consistency of approach.

The Environment Agency established the cross-functional Interpretation Group to provide high-level guidance on interpreting the regulations and advice on delivery in order to achieve a consistent approach to interpretation and implementation.

In addition, it was decided early on in the process to produce a regulatory package tailored for each sector. This package contains all the guidance and application tools that an applicant requires. The aims of the regulatory package are to

- fully implement the law;
- deliver maximum environmental benefit;
- support operational transparency and consistency;
- promote operator responsibility;
- be simple and cost effective for staff and operators use.

As part of this, application templates have achieved the aim of focusing the information supplied, improving the quality and completeness of applications. One trade-off is that an increasingly prescriptive format does not easily allow individual situations and smaller industrial sectors to be fully catered for and may also encourage simplistic answers rather than the provision of appropriate information. However, one useful feature of PPC is that the



regulator can vary a permit at any time, to take account of information that comes to light at a later date.

### Communications and sector management

Sector implementation teams, supported by a sector coordinator, carry out most of the consultation/communication with industry and trade bodies. The communication strategy varies from sector to sector but invariably involves a scoping of the sector to gather information about its structure, geographical and size distribution, along with their preferred methods of communication. Each principal sector also has a sector permitting plan, which seeks to focus regulators and industry on the most important aspects at that time.

The early involvement of trade organisations and other sector representatives in the formation of guidance, establishing BAT and identifying sector-specific issues and concerns, has proved valuable, and significantly aided the introduction of PPC.

### Charging

The UK government requires that regulators recover the costs of PPC from the industries they regulate. The costs reflect the levels of control and regulatory effort that must be put in.

Environment Agency charging schemes have changed over time from a flat fee, which did not reflect differing regulatory intensity, to the component approach used to calculate fees for IPC. This approach reflected the complexity of the site; therefore, it was a fairer system, but it did not reflect well the risk and hazard posed by a site nor did it reflect the quality of management.

The Environmental Protection Operator and Pollution Risk Appraisal (EP OPRA) system was introduced in 2002 to address this. It is a risk-based scoring system that takes into account the scale, complexity, location, quality of management and environmental hazard posed by an installation. For most installations, the application and subsistence fees are based on the EP OPRA score, as is the level of regulatory effort put into compliance assessment.

Experience has shown that the costs of permitting are often higher than expected. In part this may be due to poor application quality, but there is a baseline level of effort required to determine any application. Some applications at the lower end of the scale may have fees set at an unrealistically low level.

### National permitting teams

National permitting teams (SPGs) were established in 2004, in advance of the predicted increase in the number

of applications as larger sectors came into PPC. The SPGs are staffed by officers seconded from Area operational teams together with new recruits, and operate in multi-disciplinary teams supported by specialists. The use of SPGs has halved the determination time by focusing training on a relatively small number of staff. The consistency of permits has also improved and training has become quicker and more cost effective. There is, however, a drawback; the use of SPGs has made using specialist local knowledge more difficult, although this is mitigated by Area teams contributing to the permitting process.

### Compliance and enforcement

Once a permit is issued, compliance and enforcement are carried out by Area teams. Compliance assessment effort is based on the EP OPRA score. The aim is to channel regulatory effort to installations that have the highest risk of pollution, as well as reflecting the scale of the installation. The EP OPRA system has recently been updated to include a compliance rating that is dependent on the regulator's assessment of compliance with permit conditions, using a compliance classification scheme.

Compliance assessment plans (CAPs) are being introduced to identify the compliance assessment tasks and the level of resources that are required. Sector CAPs identify the priority outcomes for each sector and the environmental issues that are likely to require attention. Site-specific CAPs are being introduced for all significant installations. These can be tailored to local issues and objectives, and specify a programme of compliance assessment, in consultation with the operator. The CAP provides a framework for consistent and transparent assessment against permit conditions, which aids resource planning.

Compliance assessment is based on operator reporting, according to the monitoring requirements set in the permit. This is not confined to emissions, but includes performance and resource efficiency data. Operator reporting is supplemented by site visits, auditing operator monitoring and check monitoring as appropriate. Increasingly the responsibility for compliance is being placed on the operator, by requiring them to operate effective environmental management systems, manage environmental risks, optimise resource use, and be responsible for monitoring and achieving improvements contained in the permit improvement plan.

### What has been achieved?

The UK has developed an effective system of integrated regulation. This has been achieved through a series of

discrete steps over a long time scale, and has resulted in an experienced regulator, knowledgeable and cooperative regulated industrial sectors, and a system that has formed the basis for the European approach to integrated regulation.

A recent study (Environment Agency 2004) has shown that the resource efficiency savings made by operators regulated under IPC and PPC between 1998 and 2002 included a 25% drop in waste disposal over the period and a 50% increase in waste recovery across England and Wales. It is apparent that both IPC and PPC have had a significant effect on the environmental performance of UK industry, by controlling emissions to all three environmental media, helping companies to identify pollution prevention and resource efficiency opportunities, requiring companies to follow structured environmental improvement programmes, and raising the profile of environmental issues in corporate boardrooms. The introduction of PPC has extended these controls to industrial sectors that were not previously regulated under IPC, and has

done much to initiate environmental improvements in these sectors.

### Future development

The future of environmental regulation in the UK is likely to involve greater integration, and may involve the greater integration of regimes and possibly regulators' activities. Areas that may be further incorporated into the existing system of integrated regulation include more waste management and water licensing, although no decisions have been made on these yet.

### Acknowledgement

We acknowledge Dr. S.M. Steam, Former Head of PPC Policy, Environment Agency.

### Reference

Environment Agency. (2004) *IPPC & Resource Efficiency – A Review of Progress*. Environment Agency, Bristol.



## APPENDIX E

### US EXPERIENCE: INTEGRATED AND CROSS-MEDIA ENVIRONMENTAL REGULATION

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This appendix acknowledges past efforts that have contributed to integrated approaches in the US regulatory system and includes an overview of past multimedia or integrated undertakings in the US, a summary of the EPA 1980 Consolidated Permit Regulations, and a summary of New Jersey's experience with their Facility-wide Permit Program.

#### US Experience with Multimedia or Integrated Approaches

Integrated environmental regulation is not an entirely new concept in the US, nor is this study the first look into the potential incorporation of multimedia or integrated approaches into the US environmental regulatory system. The research and analysis currently underway and discussed in this report follows a long line of undertakings by states, the federal government, Non-Governmental Organizations (NGOs), the regulated community, and other stakeholders to explore and use integrated approaches.

Although the US follows a media-specific program for environmental permitting, as discussed earlier in the report, mechanisms exist in the US that support a more holistic framework. As an example, the National Environmental Policy Act of 1969 (NEPA) was the first of several major statutes that established the modern body of environmental law in the US. Unlike medium-specific laws, such as the Clean Air Act (CAA) and Clean Water Act (CWA), NEPA provides a multi-stakeholder, multi-media approach to environmental decision-making. Specifically, NEPA requires federal agencies to prepare comprehensive environmental analyses when considering a proposal for major federal action. For example, the Environmental Protection Agency (EPA) is required to comply with NEPA for various actions the agency undertakes, including research and development, facilities construction, wastewater treatment construction grants, EPA-issued National Pollutant Discharge Elimination System (NPDES) permits for new sources, and rule-making procedures. The NEPA process is intended to help agencies make decisions that consider all of the environmental consequences of an action, such as the overall environment potentially affected by the actions and a range of alternative actions and their respective consequences.<sup>2</sup> NEPA is not applied, however, to the issuance of permits under other environmental laws.

EPA was actually established with the express purpose of creating an interrelated system to protect the environment. President Nixon stated in 1970 at the establishment of EPA that “the sources of air, water, and land pollution are interrelated and often interchangeable” and that “for pollution control purposes the environment must be perceived as a single, interrelated system.”<sup>3</sup>

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<sup>2</sup> The environmental consequence discussion is broad and unifying, including such topics as indirect impacts, cumulative impacts, energy requirements and conservation potential, natural resource requirements, effects on urban quality, cultural impacts, and socioeconomic effects.

<sup>3</sup> Nixon, R.M. 1970. Special Message from the President to the Congress about Reorganization Plans to Establish the Environmental Protection Agency and the National Oceanic and Atmospheric Administration. Available online: <http://www.epa.gov/history/org/origins/reorg.htm>.



The earliest specific foreshadowing of an integrated approach to permitting came in 1980 via the Consolidated Permit Regulations.<sup>4</sup> EPA attempted to coordinate permit requirements for five programs under the Resource Conservation and Recovery Act (RCRA), Safe Drinking Water Act (SDWA), CWA, and CAA. The stated intent of the Consolidated Permit Regulations was to coordinate processing of multiple permits for a single facility; unify procedures and permit requirements across EPA permit programs; and consolidate the permit format. However, due to industry, state, and even EPA regional complaints about the complexity of the regulations and their difficulty to understand and implement, EPA decided to deconsolidate the regulations three years after promulgation of the rule. (See the section below in this appendix for more information on the Consolidated Permit Regulations.) EPA's interest in reforms targeting the integration of media-specific programs continued, nonetheless. Building on lessons learned from attempting consolidation, the Conservation Foundation and EPA sought to promote a cross-media or multi-media approach to environmental protection in the mid- and late 1980s with a "model" omnibus Environmental Protection Act that would reflect cross-media regulation. While the theory made sense, the proposal turned out to lack "political legs."<sup>5</sup>

With federal/national permit restructuring at a standstill, in 1991 the New Jersey Department of Environmental Protection launched the New Jersey Facility-wide Permit Program as part of the state's Pollution Prevention Act. New Jersey became the first state in the country to issue binding multi-media permits and issued 14 facility-wide permits between 1994 and 2001. The program recognized several benefits of facility-wide permits, including increased operational flexibility for permitted facilities, identification of fugitive emissions that had not been previously permitted at a facility, reduced facility emissions, and identification of cross-media transfers. The program did not accept facilities as pilots after the year 2000, however, largely due to a lack of ongoing political support, high set-up and implementation costs, and the difficulty of pinpointing which environmental benefits were actually directly attributable to aspects of the program. The New Jersey Facility-wide Permit Program provides an interesting case study and offers important lessons for considering integrated permitting processes in the US. The Facility-wide Permit Program is discussed in further detail in Appendix N.

While New Jersey launched the Facility-wide Permit Program, EPA again was looking at incorporating multi-media approaches. EPA proposed the Pulp and Paper Cluster Rule in 1992, attempting to cover air and water pollution at pulp and paper mills in an integrated manner. Additionally, between 1994 and 1998, EPA introduced the Common Sense Initiative—an effort addressing environmental management by industrial sector rather than by environmental medium. As part of the initiative, EPA engaged in talks with representatives from the iron and steel industry, states, and NGOs about reducing transaction costs to the iron and steel industry by consolidating CAA and CWA permit requirements for that industry. While the stakeholder groups recognized potential benefits from consolidating the permit requirements, statutory requirements slowed negotiations. Negotiations were still underway when the Common Sense Initiative wrapped up in 1998, and consolidation of permit requirements was never achieved.<sup>6,7</sup>

<sup>4</sup> 40 CFR Parts 122-124, 45 FR 33290.

<sup>5</sup> Lazarus, J.L. 2004. *The Making of Environmental Law*. The University of Chicago Press, Chicago, p. 169.

<sup>6</sup> Personal communication with Robert Tolpa, U.S. EPA Region 5, March 26, 2007.

In 1994 EPA formed the Permits Improvement Team (PIT) to identify improvements in and develop a long-term vision for environmental permitting. With extensive input from stakeholders, the PIT issued an *Action Plan for Achieving the Next Generation in Environmental Permitting* (the "Action Plan").<sup>8</sup> The Action Plan set out several goals intended to help EPA work toward the "next generation" of permitting, including building a cross-agency framework for permitting, specifically calling for establishment of more consistent administrative processes across media programs and evaluation of the role and utility of integrated multimedia permits. While the multimedia plans did not materialize, the Action Plan was significant in that it recognized the need for multimedia considerations and more cross-agency interaction on permitting matters.<sup>9</sup>

Recognizing EPA's short-lived and experimental attempts at integration, in 1995 the National Academy for Public Administration (NAPA) encouraged EPA to find ways to integrate its management of water pollution, air pollution, and waste in order to take a more "holistic approach to problem solving."<sup>10</sup> NAPA recommended that, in consultation with Congress, EPA "should begin work on a reorganization plan that would break down the internal walls between the agency's major 'media' program offices for air, water, waste, and toxic substances." In a 1997 report, NAPA urged EPA to use Project XL<sup>11</sup> to pilot integrated or multi-media projects and to synchronize reporting requirements across statutes.<sup>12</sup>

Also in the 1990s, the emergence and increased use of environmental management systems (EMS) by organizations across the US brought heightened attention to comprehensive integrated planning. Because in implementing an EMS an organization must consider all the ways it interacts with the environment and what the environmental impacts of those interactions are, EMSs result in more holistic environmental planning. Recognizing the comprehensive, multimedia nature of EMSs, EPA even released a *Strategy for Determining the Role of Environmental Management Systems in Regulatory Programs* in 2004.<sup>13</sup> One consideration of the strategy is to determine if EMSs may offer integrated approaches to environmental problem

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<sup>7</sup> Printers' Simplified Total Environmental Partnership (PrintSTEP), which is an alternative multi-media approach for regulating printers, also came out of the Common Sense Initiative and is currently being implemented by several states.

<sup>8</sup> EPA. 1999. *Action Plan for Achieving the Next Generation in Environmental Permitting*.

<sup>9</sup> Personal communication with George Wyeth, U.S. EPA National Center for Environmental Innovation, January 12, 2007.

<sup>10</sup> National Academy of Public Administration. 1995. *Setting Priorities, Getting Results: A New Direction for the Environmental Protection Agency*. National Academy of Public Administration, Washington, DC.

<sup>11</sup> Project XL was a pilot program, launched by EPA in 1995, which allowed regulatory and procedural flexibilities to companies, communities, and other organizations to test innovative regulatory approaches. A few XL projects had multi-media or integrated components. For example, Intel Corporation and Weyerhaeuser Company were both allowed to consolidate their reporting for federal, state, county and city permitting, and regulatory programs. The Weyerhaeuser project also involved incorporation of a "minimum impact manufacturing" model—a holistic, multidisciplinary strategy for continuous environmental improvement.

<sup>12</sup> National Academy of Public Administration. 1997. *Resolving the Paradox of Environmental Protection: An Agenda for Congress, EPA, & the States*. National Academy of Public Administration, Washington, DC.

<sup>13</sup> EPA. 2004. *EPA's Strategy for Determining the Role of Environmental Management Systems in Regulatory Programs*.

solving where single media approaches fall short. A few states have already begun exploring the use of a comprehensive “EMS permit.”<sup>14</sup>

Cross-media approaches and integrated pollution control has also been the subject of research and various publications throughout the 1980s and up to the present. Terry Davies, for example, currently Senior Fellow at Resources for the Future and past Assistant Administrator for Policy at EPA, authored various publications on the subject, including papers on controlling cross-media pollution, multimedia approaches to pollution control and comparisons of regulation and outcomes in the US and Europe.<sup>15</sup> Also, in 1996 Robert Hersh, Senior Fellow at RFF, authored a discussion paper reviewing integrated pollution control efforts in the UK, the Netherlands, Sweden and European Union in general.<sup>16</sup>

## Consolidated Permit Regulations Summary

On May 19, 1980, EPA promulgated the Consolidated Permit Regulations (40 CFR Parts 122-124, 45 FR 33290), establishing consolidated permit program requirements for five permit programs:

- the Hazardous Waste Management program under the Resource Conservation and Recovery Act (RCRA);
- the Underground Injection and Control (UIC) program under the Safe Drinking Water Act (SDWA);
- the National Pollutant Discharge Elimination System (NPDES) under the Clean Water Act (CWA);
- State “dredge or fill” programs (Section 404 programs) under the CWA; and
- the Prevention of Significant Deterioration (PSD) program under the Clean Air Act (CAA).

The Consolidated Permit Regulations were established as part of an EPA-wide effort to consolidate and unify procedures and requirements for EPA and state permit programs. However, industry, states, and even EPA regional officials were concerned about the complexity of the regulations and their difficulty to understand and implement. Eventually, the President’s Task Force on Regulatory Relief commissioned an EPA review of the regulations. As a result of the review, EPA decided to deconsolidate the regulations with the intent to make the regulations easier to understand and to use on April 1, 1983 (40 CFR Parts 122-124, 48 FR 14146), just three years after promulgation of the rule.

### Regulations

The Consolidated Permit Regulations coordinated the processing of multiple permits and established common procedures to be followed in making permit decisions. Technical

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<sup>14</sup> The Colorado Department of Health and Environmental Protection is piloting a multi-facility project that implements a whole-facility EMS permit approach. More information on Colorado’s pilot project can be found at the project Web site: <http://www.cdphe.state.co.us/el/EMS/emspemrit/>. The Wisconsin Department of Natural Resources is also in the process of developing an EMS permit project.

<sup>15</sup> See CV for Terry Davies at <http://www.rff.org/CV-Print.cfm?Researcher=Davies>.

<sup>16</sup> See CV for Robert Hersh at <http://www.wpi.edu/Academics/Depts/IGSD/People/hersh.html>.

regulations for each permit program were developed separately and stood apart from the Consolidated Permit Regulations. While the consolidated regulations coordinated permitting procedures, such as public participation, consolidated review and issuance of permits, and appealing permit decisions, the separate technical regulations set the substantive standards for the contents of the permits.

A facility that had to apply for at least one of the permits under the Consolidated Permits Rule was required to use the consolidated application. The facility simply used the parts of the application that applied to it.

The consolidated regulations established common procedures to be followed where EPA was the issuing authority. States were required to comply with only some of the provisions, such as basic public participation requirements of permit issuance. However, the regulations intended to coordinate permit review and issuance between EPA and states in instances where a single facility required permits from both agencies. Although the regulations did not require a state to reorganize its permitting structure, they encouraged states to move toward consolidation or “one-stop” permitting.

EPA intended for the Consolidated Permit Regulations to encourage consolidated permitting in three ways:

- 1) **Coordinated processing of multiple permits for a single facility.** EPA developed a single set of permit application forms. The set had a single short form to collect basic information needed for all programs and separate program-specific forms to collect additional information needed to issue permits under each program. The regulations established procedures for joint public notice, hearings, and issuance for multiple permits.
- 2) **Uniform procedures and permit requirements across EPA permit programs.** The intent was that all EPA permit procedures would follow the same procedures and meet similar requirements in order to provide more consistency and predictability for the regulated community.
- 3) **Consolidated permit format.** The regulations interspersed requirements for one permit program among requirements for other permit programs. The regulations were organized both by topic (e.g., standard permit conditions) and by permit program. The regulations tried to fully describe the requirements on a topic to the extent that the requirements were common across permit programs and then separately describe program-specific variations on the topic.

### ***Intended Benefits***

EPA anticipated that the Consolidated Permit Regulations would result in benefits to the environment, the regulated community, the public, and EPA and State agencies. Although such benefits were intended, EPA did not generally see these benefits realized to the extent expected.

- **Environmental** – Consolidation of permit requirements and processing procedures were intended to result in more comprehensive management and control of waste.

- **Regulatory** – More consistency and predictability were intended to reduce costs for the regulated community by reducing paperwork and improving efficiency in processing permits.
- **Institutional** – The process leading up to the Consolidated Permit Regulations resulted in greater coordination, sharing of information, and resolution of inconsistencies and overlaps across EPA. The Consolidated Permit Regulations were intended to maintain this.
- **Public Participation** – Procedures and opportunities for public participation in permit decisions were more uniform.
- **Resource** – Consolidation was intended to reduce resources EPA needed to administer permit programs. It was intended that States that adopted similar approaches would also save resources.

### ***Actual Outcomes***

Actual consolidated processing of multiple permits was very rare. EPA found it hard to consolidate across programs because the various permit programs regulate inherently different activities and impose different sorts of requirements. The consolidated format of the regulations also made them very difficult to use.

### ***Challenges***

Various challenges impeded realization of the intended benefits of the Consolidated Permit Regulations, including the following.

- Few commonalities across permitting programs made it hard to consolidate regulations and requirements;
- The consolidated format of the regulations was complex and hard to use;
- EPA experienced some “turf” issues – RCRA hazardous waste and UIC were new permitting programs at the time of consolidation, and felt hindered because they had to coordinate their regulations with the more complex, established NPDES permit regulations; and
- Some felt that the streamlining was superficial because it only included the paperwork and procedural process of permitting. Those who felt this way thought the actual time and effort of permitting goes into the permit contents, so the permit content forming process is what should be streamlined.

### **New Jersey Facility-wide Permit Program Summary**

New Jersey’s Facility-wide Permit (FWP) Program was launched in 1991 as part of the state’s Pollution Prevention Act. The act established two separate initiatives: (1) mandatory pollution prevention planning for approximately 800 facilities in New Jersey; and (2) the FWP program. The act directed the New Jersey Department of Environmental Protection (DEP) to implement the pilot FWP program with the intent of producing permits that would encourage pollution prevention while simplifying the permitting process. The program was the first in the country to issue binding multi-media permits.



Between 1994 and 2001, the program issued 14 facility-wide permits to companies from a wide variety of industrial sectors in New Jersey. The participating facilities came into the program with dozens to hundreds of separate environmental permits—the facility-wide permit was designed to incorporate each of those permits into a single permit that comprehensively examined the environmental impact of the facility.

By 2000, the FWP program was no longer accepting facilities into the pilot program. As of 2005, about 10 of the participating facilities still had facility-wide permits, but the permits had been largely converted to Title V air permits and had lost much of their original intent and flexibility.

## **Background**

The findings of the Pollution Prevention Act best describe DEP's motivation for pursuing facility-wide permitting. The findings state that "the traditional system of separately regulating air pollution, water pollution, and hazardous waste management constitutes a fragmented approach to environmental protection and potentially allows pollution to be shifted from one environmental medium to another..."<sup>17</sup> DEP was interested in using the FWP program to explore an alternative to the single-media, end-of-pipe approach of traditional regulatory programs.

The Pollution Prevention Program Act defines a facility-wide permit as a "single permit issued by the department to the owner or operator of a priority industrial facility incorporating the permits, certificates, registrations, or any other relevant department approvals previously issued to the owner or operator of the priority industrial facility...and the appropriate provisions of the pollution prevention plan prepared by the owner or operator of the priority industrial facility."<sup>18</sup>

DEP noted three main objectives for the FWP program:

- **Administrative efficiency** – Streamlining the mechanisms through which regulatory approval is received including paperwork reduction, integrated data management, optimal review processing time, and consolidation of administrative requirements.
- **Risk reduction** – Reducing the multimedia environmental and human health impacts of hazardous substances through pollution prevention or treatment options.
- **Pollution prevention** – Reducing the use and generation of hazardous substances prior to their storage, treatment, out-of-process recycling, or disposal.<sup>19</sup>

## **Permit Development**

This section summarizes major points pertaining to development of a facility-wide permit under the FWP program.

**Pollution Prevention Planning and Materials Accounting.** Two main components of the facility-wide permitting process were pollution prevention planning and materials accounting.

<sup>17</sup> New Jersey Statutes Annotated (NJSA) 13:1D-35.

<sup>18</sup> Ibid.

<sup>19</sup> Anderson, Steven, and Jeanne Herb. Building Pollution Prevention into Facility-wide Permitting, *Pollution Prevention Review*: Autumn 1992.



The development of a facility-wide permit began with the preparation of a pollution prevention plan, of which materials accounting is an integral step. First, the facility identified the various distinct production processes in the facility. Then, the facility conducted process-level materials accounting for each production process. This means that the facility estimated the amount of each hazardous substance in starting and ending inventories and the amounts used/consumed through chemical reactions, generated as non-product output, recycled out of process, transferred offsite, incorporated in product, or released into the environment. The materials accounting data allowed a facility to trace the path of each hazardous substance from the point at which it is brought on to the site to the point at which it leaves the site as product or non-product output.

The facility used the materials accounting data to identify pollution prevention opportunities. Because materials accounting data was organized at the process level for each pollutant, the facility could identify cross-media shifts and determine more comprehensive pollution prevention strategies. The facility chose priority pollution prevention strategies to pursue and set five-year pollution prevention goals. Once the facility completed a pollution prevention plan, DEP developed process-level limits and other conditions for all releases (i.e. emissions, discharges) based on the materials accounting data and pollution prevention goals.

**Application.** In addition to the pollution prevention plan, the application included general information about the facility (e.g., location, description), facility administrative information (e.g., contacts, site plans), facility technical information (e.g., release data and estimates, Toxic Release Inventory reports), and process level information (e.g., process-flow diagrams, lists of sources, chemicals, permits, applicable requirements, emissions, compliance schedules). The permit application process, including materials accounting and pollution prevention planning, was a difficult process and often lasted three or more years.<sup>20</sup>

**Permit Writers.** Permit writers from DEP's Pollution Prevention Office were assigned responsibility for writing the FWP. One permit writer was assigned responsibility for each facility. At first, DEP attempted to write the FWP using a team of permit writers representing each of the media offices, but coordinating a group of individuals from different offices with different responsibilities and priorities proved to be difficult. Consequently, the Pollution Prevention Office assigned one permit writer to each facility, and that permit writer consulted with individuals from the air, water, and waste offices as needed. An EPA Region 2 staffer was also designated as the liaison for providing DEP with needed technical and regulatory assistance.

**Process-level Caps and Permit Contents.** Permit writers developed the contents of the permit and set new process-level caps based on the facility's pollution prevention plan and information from the application. Process-level caps distinguish the FWP from traditional media permits, which focus on permitting specific sources. It is important to note, however, that while pollutant limits are set at the process-level, they are single medium caps rather than multi-media, facility-wide caps. Because the process-level caps were tied to the pollution prevention plan, in some cases, permit writers persuaded facility's to agree to commit to emissions levels aspired to in the pollution prevention plan that were more stringent than would have been required.

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<sup>20</sup> National Academy of Public Administration (NAPA). 2000. "The Potential and Pitfalls of Innovative Permits: Learning from New Jersey's Facility-wide Permitting Experience," Research Paper Number 3. In *Learning From Innovations* (Environment.gov Research Papers).

The FWP combined all of the information that would have been regulated by dozens to hundreds of separate, single-medium permits. The Pollution Prevention Act required the permits to include air permits; permits for discharges to surface water, groundwater, and publicly owned treatment works (POTWs); water treatment works approvals; hazardous waste facility permits; recycling notifications for hazardous wastes; and hazardous waste accumulation approvals.<sup>21</sup> However, most of the facility-wide permits ended up incorporating only air and water permits, since they are the most commonly issued permits. Only one permit in the FWP program included hazardous waste permit requirements.<sup>22</sup>

**Flexibility.** Setting caps at the process level allowed significant flexibility for facilities to make operational changes within a process without pre-approval, as long as the new equipment or process changes did not increase the facility's non-product output or exceed the specified process emissions levels.

### ***Status of Facility-wide Permits as of 2005***

As of 2005, approximately 10 facilities still operated under facility-wide permits in name, but the permits had largely been converted to Title V air permits. The major flexibility contained in the permits was the allowance of facilities to make an operational change and notify DEP 120 days after the change, as long as it did not exceed the process-level emissions caps. As a result of the conversion to Title V Air Operating Permits, this provision was changed to a seven-day advance notification. DEP is currently developing a list of specific changes that facilities with FWP can make under the seven-day change notice. This flexibility is still beyond the flexibility provided in a traditional Title V air permit.

### ***FWP Program Results***

A number of studies have been conducted on the FWP program. This section summarizes some of the achieved successes and obstacles of the pilot program. For a more thorough review of the FWP program, however, see the studies listed at the end of this section.

### **Benefits Resulting from the FWP Program**

- **Operational flexibility** - Ten of the pilot facilities reported that the largest benefit of operating under a facility-wider permit was increased operational flexibility. As long as new equipment or process changes did not increase the facility's non-product output or exceed the specified process emissions levels, the facility could make the operational change without prior authorization.
- **Fugitive emissions identified** - In almost every facility, DEP staff and facility personnel discovered at least one pollution source that did not have the required permit. This benefit was largely the result of the resource intensive FWP process—each facility is unique and therefore required an intensive review and unprecedented cooperation between the facility and regulator to issue the facility-wide permit.

<sup>21</sup> New Jersey Department of Environmental Protection, Office of Pollution Prevention. *Basic Administrative Procedures for Preparing and Issuing Facility-wide Permits*. (Date unknown)

<sup>22</sup> NAPA, 2000.

- **Reduced facility emissions** - The detailed facility-wide permitting process and required pollution prevention plan prompted facility managers to see their facility as a series of connections and flows rather than individual point sources. Through the facility-wide permitting process they learned about their facility and worked closely with DEP to reduce overall emissions.
- **Cross-media transfers identified** - The facility-wide permitting process required permit writers to examine the cross-media impact of environmental regulation and minimize shifts of pollution.

### Challenges of the FWP Program

- **Ongoing political support** - The FWP program was created by one administration and dismantled by the next. A permitting pilot program would need to be in place for 5 to 10 years to effectively observe the program's impact on the environment, the facility, and the regulating agency. In the New Jersey case, the pilot program initially had widespread support. However, largely due to political changes, over the years the program lost political support, funding, and needed personnel.
- **High set-up and implementation costs** - A major drawback to the New Jersey pilot program was the high level of resources required to do the analysis and draft permits, both on the part of the facility and the DEP. Each facility is unique and as such requires a unique permit that must be developed through ongoing negotiations between the facility and permit issuing authority.<sup>23</sup>
- **Difficult to distinguish environmental benefits of the multi-media approach** - As outlined above, the FWP program resulted in many positive environmental benefits. However, it has been difficult for pilot participants to identify which benefits were specifically attributable to the multi-media aspect of the permitting program and which benefits were the result of other factors (e.g., a more rigorous facility review process, a focus on pollution prevention, increased cooperation between the regulator and regulated facility).

**Studies of FWP Program.** For a thorough review of the FWP program, the following studies provide detailed information on the facility-wide permitting process, costs and benefits of the program, lessons learned, and implementation of the FWP program from a facility perspective.

- Industrial Economics Incorporated. Permit Reforms Case Study: Schering Corporation, Kenilworth, New Jersey, Multimedia Permit. February, 1999.
- National Academy of Public Administration (NAPA). The Potential and Pitfalls of Innovative Permits: Learning from New Jersey's Facility-wide Permitting Experience, Research Paper Number 3 in *Learning From Innovations* (Environment.gov Research Papers). June, 2000.
- Rabe, Barry G. Permitting, Prevention, and Integration: Lessons from the States. In: Donald F. Kettl, Editor. *Environmental Governance*. Washington, D.C.: Brookings Institution, 2002.

<sup>23</sup> Personal communication with Steve Anderson and Mike DiGiore, DEP. 4 May 2005.

## APPENDIX F

### TIMELINE OF INTEGRATED PERMITTING INTERNATIONAL COLLABORATION EFFORT ACTIVITIES

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#### Completed Milestones

- April 2005: Established Integrated Permitting International Collaboration Effort (IP ICE) Network comprised of EPA & State officials
- April/May 2005: Established an IP ICE internet-based interactive database that facilitates information sharing and collaboration
- June 2005: Conducted IP ICE Workshop (Washington, DC) and hosted a presentation by the UK senior managers (Network partners) at the Innovation Action Council (most senior career level managers at EPA)
- September 2005: Formed “core” IP ICE research team (EPA and state staff)
- January 2006: Participated in EPA-State Symposium on Environmental Innovation and Results (Denver, CO)
- September 2006: Presented research at EPA Air Innovations Conference: Integrated & Innovative Approaches for Improving Air Quality (Denver, CO)
- May 2007: Distribution of draft report for review by IP ICE Network and possible interested external parties
- June 2007: Multi-State Working Group presentation (Madison, WI)
- July 2007: Travel to UK for study of IPPC system (itinerary below) in order to:
  - collect data (additional permit documents, evaluative reports and materials, policy documents, etc.)
  - interview UK government (permit practitioners, solicitors, policy experts, etc.)
- September 2007: Distribution of updated draft report for comment and for use at October workshop
- October 2007: Hosted workshop: Lessons from the United Kingdom’s Integrated Permitting Experience: Exploring New Directions for Environmental Permitting in the US (co-sponsored by Woodrow Wilson International Center for Scholars, Washington, DC)
- January 2008: Innovation Symposium Workshop (Chapel Hill, NC)
- April 2008: Release final report

#### Itinerary for UK July 2007 Research Trip

##### ***Bristol Head Office Meetings (July 16-17, 2007)***

Spoke with head office managers and staff regarding, among other topics, IPPC industry regulation and policy; the environmental permitting program (PPC2); the legal framework; IPPC review; integration of other EU directives into IPPC; and BREF development process (large volume chemicals BREF).

- Tim James, EA Head Office Bristol
- Jim Gray, EA Head Office Bristol

- Terry Shears, EA Head Office Bristol
- Peter Kellett , EA Head Office Bristol (Environmental Permitting Programme)
- Alex Radway, EA Head Office Bristol (EC IPPC review and BREF process)
- Duncan Mitchell, EA Head Office Bristol, Solicitor (enforcement philosophy, process and procedures)
- Maggie Dutton, EA Head Office Bristol (permit appeals)

### ***Industry Site Visits Near Bristol (July 18, 2007)***

Site visits to several facilities with IPPC permits included in the report.

- Jon Gulson, EA Area Office Bridgwater
- Roger Marlow, EA Area Office Bridgwater, Inspector
- David Sweeting, Compact Power (medical waste incinerator/gasifier)  
[http://www.compactpower.co.uk/pages/clinical\\_waste.php](http://www.compactpower.co.uk/pages/clinical_waste.php)
- Colin Foy, Gerber Juice (“greenfield” facility)  
<http://www.gerberjuice.com/>
- Mick Pedder, Gerber Juice

### ***EA Reading and London Offices (July 19, 2007)***

Discussion of St. Regis facility IPPC permit included in the IP ICE report analysis. Gathered industry perspectives on IPPC permitting, including relative costs and benefits to the facility and changes to facility operations as a result. Additionally, discussed perspectives of a UK pressure (NGO) group.

- Amanda Barratt, EA Area Office Hatfield
- Mike Collins, St. Regis Paper, DH Smith Group
- Kevan Harris, St. Regis Paper, DH Smith Group
- William Averdieck, Environmental Industries Commission and Particulate and Emissions Monitoring Systems

### ***DEFRA - EA Government Sponsor (July 20, 2007)***

Discussed overall IPPC policy and implementation, the EU-UK legislative dynamics, the DEFRA-EA relationship.

- Richard Vincent, DEFRA Air and Environmental Quality Division, Head of Industrial Pollution Control Branch

### ***EA Warrington Offices (July 23, 2007)***

Discussed “national permitting” (transition from 26 area offices responsible for permitting to 4 current centers) and the plan to cover all facility permitting (PPC and more) in a consolidated fashion. Also discuss sector strategies/planning.

- Chris Smith, EA Regional Office Warrington, Strategic Permitting Group (SPG) (one of the centers responsible for issuing PPC permits)



- Simon Holbrook, EA Regional Office Warrington, SPG
- Andrew Harrison, EA Regional Office Warrington (Tioxide plant application, decision memo and permit)
- Dave Balmer, EA Regional Office Warrington (financial provision for landfill)
- Alastair Waite, EA Regional Office Warrington, PPC Interpretation Group
- Paul Fernee, EA Regional Office Warrington (hazardous waste process)
- Sarah Dennis, EA Area Office Tewkesbury

***Eastman Chemical Company Site Visit (July 24-25, 2007)***

Site visit to Eastman Peboc, permit included in the report analysis.

- Paul Nash, EA Area Office Buckley (Wales), Chemicals Policy Advisor
- Peter Roberts, Eastman Chemical Company
- Jennifer Clark, Eastman Chemical Company

***EA Area Office, Buckley, Wales (July 26, 2007)***

Discussed application determination, post permit issuance activities, improvement program implementation (for Peboc and other permits) with EA staff.

- Paul Nash, EA Area Office Buckley
- Ian Oakes, EA Area Office Buckley (Eastman Peboc permit)
- Jane Adamson, EA Area Office Buckley (noise expert)
- Ann Weedy, EA Area Office Buckley



## APPENDIX G

# UK POLLUTION PREVENTION AND CONTROL (ENGLAND AND WALES) REGULATIONS 2000 (SI1973) OUTLINE AND LIST OF OTHER REGULATIONS PROMULGATED PURSUANT TO THE PPC ACT

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### Outline of Regulations

The Pollution Prevention and Control (England and Wales) Regulations 2000, Statutory Instrument 1973<sup>24</sup>

*Made*

*21st July 2000*

*Coming into force*

*1st August 2000*

#### **PART I: GENERAL**

- Section 1: Citation, commencement and extent
- Section 2: Interpretation: general
- Section 3: Interpretation: “best available techniques”
- Section 4: Fit and proper person
- Section 5: Application to the Crown
- Section 6: Notices
- Section 7: Applications
- Section 8: Discharge and scope of functions

#### **PART II: PERMITS**

- Section 9: Requirement for permit to operate installation and mobile plant
- Section 10: Permits: general provisions
- Section 11: Conditions of permits: general principles
- Section 12: Conditions of permits: specific requirements
- Section 13: Conditions of permits: Environment Agency notice in relation to emissions into water
- Section 14: General Binding Rules
- Section 15: Review of conditions of permits
- Section 16: Proposed change in the operation of an installation
- Section 17: Variation of conditions of permits
- Section 18: Transfer of permits
- Section 19: Application to surrender a permit for a Part A installation or a Part A mobile plant
- Section 20: Notification of surrender a permit for a Part B installation or a Part B mobile plant
- Section 21: Revocation of permits
- Section 22: Fees and charges in relation to local authority permits

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<sup>24</sup> <http://www.opsi.gov.uk/si/si2000/20001973.htm>

**PART III: ENFORCEMENT**

- Section 23: Duty of regulator to ensure compliance with conditions
- Section 24: Enforcement notices
- Section 25: Suspension notices
- Section 26: Power of regulator to prevent or remedy pollution

**PART IV: APPEALS**

- Section 27: Appeals to the Secretary of State

**PART V: INFORMATION AND PUBLICITY**

- Section 28: Information
- Section 29: Public registers of information
- Section 30: Exclusion from Registers of information affecting national security
- Section 31: Exclusion from registers of certain confidential information

**PART VI: PROVISION AS TO OFFENCES**

- Section 32: Offences
- Section 33: Enforcement by High Court
- Section 34: Admissibility of evidence
- Section 35: Power of court to order cause of offence to be remedied

**PART VII: SECRETARY OF STATE'S POWERS**

- Section 36: Directions to regulators
- Section 37: Guidance to regulators
- Section 38: Plans relating to emissions

**PART VIII: CONSEQUENTIAL AMENDMENTS**

- Section 39: Consequential amendments

**SCHEDULE 1: ACTIVITIES, INSTALLATIONS AND MOBIL PLANT**

- Part 1: Activities
- Part 2: Interpretation of Part 1
- Part 3: Interpretation of "Part A Installation" etc.

**SCHEDULE 2: BEST AVAILABLE TECHNIQUES****SCHEDULE 3: PRESCRIBED DATE AND TRANSITIONAL ARRANGEMENTS**

- Part 1: Part A Installations and Mobile Plant
- Part 2: Part B Installations and Mobile Plant

**SCHEDULE 4: GRANT OF PERMITS**

- Part 1: Applications for Permits
- Part 2: Determination of Applications
- Part 3: National Security and Confidential Information

**SCHEDULE 5: POLLUTANTS****SCHEDULE 6: COMPENSATION IN RELATION TO OFF-SITE CONDITIONS****SCHEDULE 7: VARIATION OF CONDITIONS**

- Part 1: Applications for Variation of Conditions
- Part 2: Determination of Applications for Variations and Variation Notices
- Part 3: National Security and Confidential Information

**SCHEDULE 8: APPEALS TO THE SECRETARY OF STATE****SCHEDULE 9: REGISTERS****SCHEDULE 10: CONSEQUENTIAL AMENDMENTS**

- Part 1: Public General Acts
- Part 2: Subordinate Legislation

**List of Regulations Promulgated pursuant to the PPC Act**

(with active links when viewing Appendix F in electronic format)

[Pollution Prevention and Control \(England and Wales\) Regulations 2000, SI 1973](#)

[Pollution Prevention and Control \(England and Wales\) \(Amendment\) Regulations 2001, SI 503](#)

[Pollution Prevention and Control \(England and Wales\) \(Amendment\) Regulations 2002, SI 275](#)

[The Landfill \(England and Wales\) Regulations 2002, SI 1559](#)

[Pollution Prevention and Control \(England and Wales\) \(Amendment\) \(No 2\) Regulations 2002, SI 1702](#)

[The Greenhouse Gas Emissions Trading Scheme Regulations 2003, SI 3311](#)

[Pollution Prevention and Control \(England and Wales\) \(Amendment\) Regulations 2003, SI 1699](#)

[Pollution Prevention and Control \(England and Wales\) \(Amendment\) \(No. 2\) Regulations 2003, SI 3296](#)

[The Solvent Emissions \(England and Wales\) Regulations 2004, SI 107](#)

[The Landfill \(England and Wales\) \(Amendment\) Regulations 2004, SI 1375](#)

[Pollution Prevention and Control \(England and Wales\) \(Amendment\) and Connected Provisions Regulations 2004 SI 3276](#)



[Pollution Prevention and Control \(Unauthorised Part B Processes\) \(England and Wales\) Regulations 2004, SI 434](#)

[The Hazardous Waste \(England and Wales\) Regulations 2005, SI 894](#)

[Pollution Prevention and Control \(England and Wales\) \(Amendment\) \(England\) Regulations 2006 SI 2311](#)

[Pollution Prevention and Control \(Public Participation\) \(England and Wales\) Regulations 2005 SI 1448](#)

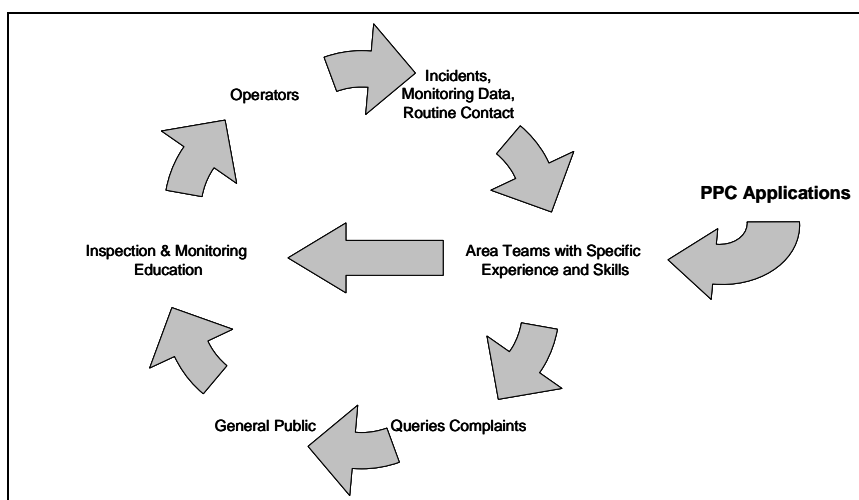
[Pollution Prevention and Control \(England and Wales\) \(Amendment\) Regulations 2007 SI 713](#)

## APPENDIX H

### EA ORGANIZATIONAL MODELS FOR PERMITTING

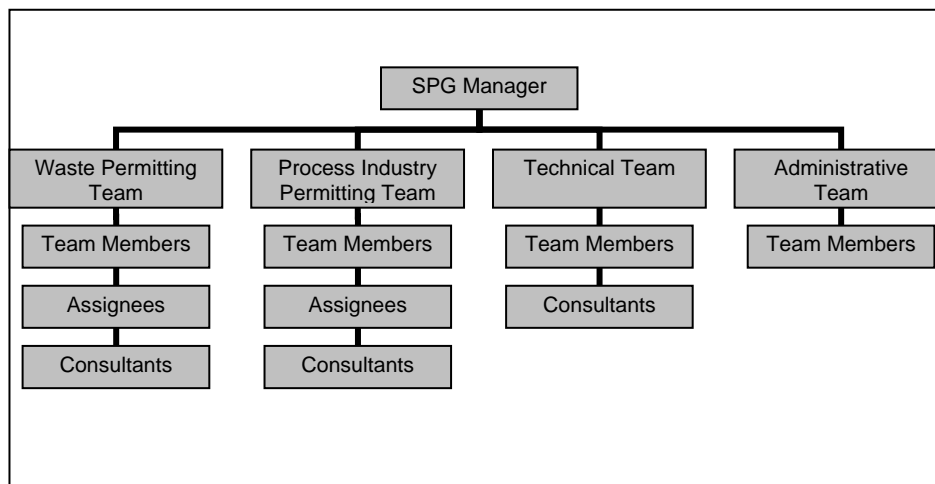
Initially the responsibility for PPC permitting rested with the EA local Area Offices. In addition to acting as the local interface between the facility operators, the public and the EA, (carrying out inspections, responding to inquiries from the public), the local Area Office Inspectors were expected to determine PPC permit applications for facilities located in the Area. This proved to be inefficient and time consuming in addition to introducing unwanted inconsistency between permits issued by the 20 or more different Area Offices. The EA's initial organization for PPC permitting is illustrated in Figure G.1 below.

**Figure G.1 – EA Initial Organization for PPC Permitting**



The EA eventually transitioned to a centralized organizational structure through creation of the Strategic Permitting Group spread across four geographic locations, but under a single manager. This model is shown below in Figure G.2

**Figure G.2 – EA Strategic Permitting Group Organization**





## APPENDIX I

### OVERVIEW OF FACILITY TYPE, REGULATOR, AND INDUSTRIAL ACTIVITY RELATIONSHIPS<sup>25</sup>

Facility Type	Regulator	Industries	Activity Areas
Part A(1) installation or mobile plant	Environment Agency	Energy industries	<ul style="list-style-type: none"> <li>• Combustion activities</li> <li>• Gasification, liquefaction and refining activities</li> </ul>
		Production and processing of metals	<ul style="list-style-type: none"> <li>• Ferrous metals</li> <li>• Non-ferrous metals</li> <li>• Surface treating metals and plastic materials</li> </ul>
		Mineral industries	<ul style="list-style-type: none"> <li>• Production of cement and lime</li> <li>• Activities involving asbestos</li> <li>• Manufacturing glass and glass fiber</li> <li>• Production of other mineral fibers</li> <li>• Ceramic production</li> </ul>
		The chemical industry	<ul style="list-style-type: none"> <li>• Organic chemicals</li> <li>• Inorganic chemicals</li> <li>• Chemical fertilizer production</li> <li>• Plant health products and biocides</li> <li>• Pharmaceutical production</li> <li>• Explosives production</li> <li>• Manufacturing activities involving carbon disulphide or ammonia</li> </ul>
		Waste management	<ul style="list-style-type: none"> <li>• Disposal of waste by incineration</li> <li>• Disposal of waste by landfill</li> <li>• Disposal of waste other than by incineration or landfill</li> <li>• Recovery of waste</li> <li>• The production of fuel waste</li> </ul>
		Other activities	<ul style="list-style-type: none"> <li>• Paper, pulp and board manufacturing activities</li> <li>• Carbon activities</li> <li>• Tar and bitumen activities</li> <li>• Coating activities, printing and textile treatments</li> <li>• Timber activities</li> <li>• The treatment of animal and vegetable matter and food industries</li> <li>• Intensive farming</li> </ul>
Part A(2) installation or mobile plant	Local authority	Energy industries	<ul style="list-style-type: none"> <li>• Gasification, liquefaction and refining activities</li> </ul>
		Production and processing of metals	<ul style="list-style-type: none"> <li>• Ferrous metals</li> <li>• Non-ferrous metals</li> </ul>
		Mineral industries	<ul style="list-style-type: none"> <li>• Manufacturing glass and glass fiber</li> <li>• Ceramic production</li> </ul>

<sup>25</sup> PPC Regulations, Sch 1, Chapter 1.

Facility Type	Regulator	Industries	Activity Areas
		Other activities	<ul style="list-style-type: none"> <li>• Coating activities, printing and textile treatments</li> <li>• The treatment of animal and vegetable matter and food</li> </ul>
Part B installation or mobile plant	Local authority	Energy industries	<ul style="list-style-type: none"> <li>• Combustion activities</li> <li>• Gasification, liquefaction and refining activities</li> </ul>
		Production and processing of metals	<ul style="list-style-type: none"> <li>• Ferrous metals</li> <li>• Non-ferrous metals</li> <li>• Surface treating metals and plastic materials</li> </ul>
		Mineral industries	<ul style="list-style-type: none"> <li>• Production of cement and lime</li> <li>• Activities involving asbestos</li> <li>• Manufacturing glass and glass fiber</li> <li>• Other mineral activities</li> <li>• Ceramic production</li> </ul>
		The chemical industry	<ul style="list-style-type: none"> <li>• Organic chemicals</li> <li>• The storage of chemicals in bulk</li> </ul>
		Waste management	<ul style="list-style-type: none"> <li>• Disposal of waste by incineration</li> </ul>
		Other activities	<ul style="list-style-type: none"> <li>• Tar and bitumen activities</li> <li>• Coating activities, printing and textile treatments</li> <li>• The manufacture of dyestuffs, printing ink and coating materials</li> <li>• Timber activities</li> <li>• Activities involving rubber</li> <li>• The treatment of animal and vegetable matter and food</li> </ul>



## APPENDIX J

### EP OPRA: ADDITIONAL INFORMATION ON EMISSIONS AND OPERATOR PERFORMANCE ATTRIBUTES

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Two of the five attributes in Environmental Protection Operator and Pollution Risk Appraisal scores (EP OPRA) seem particularly relevant to EPA's ongoing effort to explore integrated permitting -- Emissions and Operator Performance. Below we provide some additional details on how these attributes are considered within the EP OPRA framework.

#### Emissions

The emissions attribute of the EP OPRA spreadsheet provides a useful example of performance measurement across a wide range of media outputs. As noted in Chapter 4, EP OPRA includes worksheets for emissions to air, water, land, sewer, and waste management (including off-site transfers). Key elements of the emissions attribute include:

- The UK Environment Agency (EA) has established thresholds for emissions of specific pollutants by media. Facilities need only report those emissions above these thresholds.
- For each media, EP OPRA calculates an emission index as the maximum emissions (as provided by the facility) divided by the threshold level (as provided by EA). The emissions indices from individual pollutants are summed to produce the total emissions index for a media.
- EP OPRA includes separate worksheets for emissions related to off-site transfer. Indices for these emissions are reduced/discounted to reflect that they are regulated at the off-site facility.
- Facilities determine the amount of each substance released each year using the most accurate method available that reflects the maximum release possible assuming maximum plant capacity over the permitted operating hours for a year. If a facility can demonstrate that operations are not continuous throughout the year, this should be reflected in the estimate of maximum emissions.
- The scoring for emissions to land is based on quantity and type (e.g., inert, non-hazardous [non-biodegradable/biodegradable], and hazardous) of waste as a surrogate for all landfill related emissions.

## Operator Performance

Operator Performance consists of three parts -- management systems, compliance history, and compliance rating.<sup>26</sup> The EA believes that effective management systems are essential to manage the risk from an activity and to achieve permit requirements. Specifically, the absence of a documented Environmental Management System (EMS) is regarded as representing poor environmental management and requiring an increased level of regulatory oversight. Therefore, EP OPRA includes four subsections of questions to help assess difference aspects of a facility's EMS. These subsections and their relative weights in the EP OPRA rating are:

- **Operations and Maintenance (20 percent).** “Effective operational and preventive maintenance system shall be employed on all aspects of the process where any failure could impact on the environment.”
- **Competence and Training (20 percent).** “The Operator shall ensure that all relevant management and operational staff (including contractors and those responsible for purchasing equipment and materials) receive adequate training with regard to their responsibilities under the Permit. Particular attention should be given to: (1) minimizing all potential environmental effects from operation under normal, abnormal, start up and shut down circumstances; (2) preventing accidental emissions and action to be taken when accidental emissions occur; and (3) the need to report deviation from the permit.”
- **Emergency Planning (20 percent).** “The Operator shall maintain an accident management plan that identifies potential events or failures which might lead to an environmental impact. The plan shall identify: (1) the likelihood of, and the actions to be taken to minimize, these potential occurrences; and (2) the environmental consequences and an action plan to deal with such occurrences. The Operator shall have a written procedure for handling, investigating, communicating and reporting of incidents and actual or potential non-compliance with permit conditions including taking action to mitigate any impacts caused and for initiating and completing corrective action. In the case of abnormal emissions the operator shall: (1) investigate and undertake remedial action immediately; (2) promptly record the events and actions taken; and (3) ensure the Regulator is made aware, as soon as practicable.”
- **Organization (40 percent).** EA places strong emphasis on the need for an EMS to be audited by a third-party, specifically identifying Eco-Management

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<sup>26</sup> The management system section of the EP OPRA spreadsheet calculates an operator performance score, which may be adjusted, based on a facility's enforcement history. A history of enforcement actions indicates failures or inadequacies in the management systems and results in penalty points being subtracted from management systems points. In addition, the compliance rating attribute may be used to adjust the EP OPRA risk score once the permit/license has been issued. Specifically, the risk score will be reduced if a facility achieves a Band A rating for this attribute, reflecting the reduction in risk posed by well-managed facilities. If a facility has only an occasional minor breach of a permit, it receives a Band B rating and the risk score does not change. More serious violations will result in an increase in the risk score.

and Audit Scheme (EMAS) and International Organization for Standardization (ISO) 14001 certification as two alternatives. In lieu of external auditing, the EP OPRA spreadsheet provides facilities an opportunity to assess their EMS against a set of criteria relating to: (1) the nature of their environmental policy; (2) how environmental considerations are incorporated into various business practices (e.g., process change, design and review of facilities, capital approval and purchasing policy); and (3) internal auditing practices and annual reporting on environmental performance.



## APPENDIX K

### ADDITIONAL INFORMATION ON H1: IPPC HORIZONTAL GUIDANCE NOTE FOR ENVIRONMENTAL ASSESSMENT AND APPRAISAL OF BAT

The electronic Best Available Techniques (BAT) determination process is comprised of six modules that are to be considered sequentially. Module 1 contains a scoping exercise and an initial determination of options. Module 2 requires that the source inventory all emissions, which are then quantified in Module 3. Module 4 compares the impacts of the BAT options under consideration and Module 5, if necessary, is used to evaluate the costs of all options. Finally, Module 6 facilitates selection of BAT from candidate options by balancing environmental benefits against costs. Table 1 below provides a more detailed overview of the elements of each module.

<b>Table 1: H1 Assessment Modules</b>
<b>Module 1: Scope and Options</b>
<u>Scoping Exercise:</u> <ul style="list-style-type: none"> <li>Describe activities to be covered in the permit(s); and</li> <li>Generally exclude upstream or downstream operations from analysis (with exception of the indirect impacts of energy use generated offsite).</li> </ul>
<u>Options Appraisal:</u> <ul style="list-style-type: none"> <li>Generally consider base case;</li> <li>Consider General and Sector Guidance Notes (GNs);</li> <li>Consider new techniques that have emerged since publication of the GN;</li> <li>Assess trade-offs in situations where there are potential cross-media impacts; and</li> <li>Justify elimination of any options due to cost.</li> </ul>
<b>Module 2: Emissions Inventory</b>
<ul style="list-style-type: none"> <li>Provide an inventory of all sources and emissions of pollutants for each BAT option including air emissions, discharges to water, airborne deposition, risks from accidents, noise, visual impacts, odor, releases of greenhouse gases, potential for emissions to cause photochemical ozone creation by indirect effects, and the indirect effects of waste hazard and disposal;</li> <li>Ensure all options meet any statutory emission limits and EU directives; and</li> <li>CO<sub>2</sub> emissions are estimated at the source based on non-renewable sources of heat and power not generated directly at the installation.</li> </ul>
<b>Module 3: Quantify Environmental Impacts</b>
<ul style="list-style-type: none"> <li>Identify possible pathways and receptors;</li> <li>Estimate concentration of emitted substances after dispersion;</li> <li>Screen out insignificant emissions;</li> <li>Conduct detailed modeling of fate of emissions, where appropriate;</li> <li>Check whether levels are acceptable in the local environment; and</li> <li>Quantify the impacts using normalization methods, where appropriate.</li> </ul>

<b>Table 1: H1 Assessment Modules</b>
<b>Module 4: Compare Impacts of Options</b>
<ul style="list-style-type: none"> <li>• Resolve any cross-media conflicts that arise between options;</li> <li>• Rank the options according to their environmental benefit;</li> <li>• Identify the option with the least environmental impact; and</li> <li>• Decide whether the option with the least environmental impact is BAT, or whether costs need to be taken into account.</li> </ul>
<b>Module 5: Evaluate the Costs</b>
<ul style="list-style-type: none"> <li>• If conducting appraisal of BAT for more than one option, provide estimates for each option of capital costs of equipment purchase and installation, and average change in annual operation and maintenance costs; and</li> <li>• Calculate the annualized cost for each option.</li> </ul>
<b>Module 6: Select BAT</b>
<ul style="list-style-type: none"> <li>• Aim in this module is to identify the BAT from the candidate options, by balancing the environmental benefits of each option against the costs of achieving them.</li> </ul>



## APPENDIX L

### POLLUTION PREVENTION AND CONTROL PERMIT SCHEDULE 1 – NOTIFICATION OF ABNORMAL EMISSIONS

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#### Schedule 1 - Notification of abnormal emissions

This page outlines the information that the Operator must provide to satisfy conditions 5.1.1 and 5.1.2 of this Permit.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

**If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the PPC Regulations.**

#### Part A

Permit Number	
Name of Operator	
Location of Installation	
Location of the emission	
Time and date of the emission	

Substance(s) emitted	Media	Best estimate of the quantity or the rate of emission	Time during which the emission took place

Measures taken, or intended to be taken, to stop the emission	
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#### Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment or harm which has been or may be caused by the emission	
The dates of any unauthorised emissions from the installation in the preceding 24 months.	


Name*	
Post	
Signature	
Date	

\* authorised to sign on behalf of Pebec Division of Eastman Company UK Limited



# APPENDIX M

## COMPLIANCE ASSESSMENT REPORT (CAR1) FORM



Environment  
Agency

Compliance Assessment  
Report (CAR1) form

Report ID:

Name of site

Operator/  
Permit holder

Permit  
ref no:

Officer

Date

Area/office

Activity

Time in/out

Event type: ☐ Routine ☐ Incident response ☐ Other

Assessment type: ☐ Site inspection ☐ Audit ☐ Check monitoring/sampling ☐ Report/data review ☐ Procedure review

Site life status: ☐ Operational ☐ Pre-operational ☐ Post-operational

What part(s) of the permit were assessed?

**Compliance assessment summary**

Key to completion: A = Assessed/Assessed in part (no evidence of non-compliance)  
NA = Not Applicable 1, 2, 3, 4 = CCS cat 1-4 breach ATL = Approach to limit  
N = Not assessed

						Conditions breached
a) Permitted activities	1 <input type="text"/>					<input type="text"/>
b) Infrastructure	1 <input type="text"/>	2 <input type="text"/>	3 <input type="text"/>	4 <input type="text"/>	5 <input type="text"/>	<input type="text"/>
c) General management	1 <input type="text"/>	2 <input type="text"/>	3 <input type="text"/>	4 <input type="text"/>		<input type="text"/>
d) Incident management	1 <input type="text"/>	2 <input type="text"/>				<input type="text"/>
e) Emissions	1 <input type="text"/>	2 <input type="text"/>	3 <input type="text"/>	4 <input type="text"/>	5 <input type="text"/>	<input type="text"/>
f) Amenity	1 <input type="text"/>	2 <input type="text"/>	3 <input type="text"/>	4 <input type="text"/>	5 <input type="text"/>	<input type="text"/>
g) Monitoring and records, maintenance and reporting	1 <input type="text"/>	2 <input type="text"/>	3 <input type="text"/>	4 <input type="text"/>		<input type="text"/>
h) Resources efficiency	1 <input type="text"/>	2 <input type="text"/>				<input type="text"/>

The breaches indicated above may constitute one or more offences. You should take immediate action to rectify each breach and return to compliance. You should prevent any repetition of the breaches. Breaches of conditions as indicated above can result in criminal prosecutions and/or suspension or revocation of a permit.

**NB. IF THERE IS A BREACH, ONLY ONE OF THE FOLLOWING WILL HAVE AN 'X' PLACED IN THE BOX**

At present we do not intend to prosecute you for the above offences, however you are warned that this may change if further relevant information comes to light. **THIS IS A SITE WARNING** ☐

We will now consider what Enforcement action is appropriate ☐

Review of Directly Applicable Legislation: Key: A = Assessed, N = Not assessed, NA = Not Applicable, C1, C2, C3, C4 = CCS cat 1-4 breach. ☐

Report delivery method: ☐ copy left on site ☐ posted ☐ emailed ☐ faxed Date

Visit report/comments

Please note: Officers completing this form are encouraged to comment and act on the environmental performance of the site as a whole, not just those aspects covered by permit conditions.

Officer's signature

Recipient's name or position within company

Continuation sheet used ☐ Yes ☐ No

CCS record number

CAR1v09

page 1 of 2

M-1

### Notes to the recipient

This compliance report form may highlight non-compliance with your permit or directly applicable legislation as observed by the Environment Agency officer. This does not relieve the site operator of their responsibility to ensure that they comply with the permit and to prevent pollution of the environment. You are also reminded that:

- you should comply with the conditions of the permit at all times
- compliance with the permit does not remove your obligation to comply with other legislative provisions which may apply.

### Understanding the Compliance Assessment Summary

a) Permitted activities	<b>1</b>	Specified by permit
b) Infrastructure	<b>1</b>	Engineering for prevention and control of emissions
	<b>2</b>	Closure and decommissioning
	<b>3</b>	Site drainage engineering (clean and foul)
	<b>4</b>	Containment of stored materials
c) General management	<b>5</b>	Plant and equipment
	<b>1</b>	Staff competency/training
	<b>2</b>	Management system and operating procedures
	<b>3</b>	Materials acceptance
d) Incident management	<b>4</b>	Storage, handling, labelling and segregation
	<b>1</b>	Site security
	<b>2</b>	Accident, emergency and incident planning
	<b>3</b>	
e) Emissions	<b>1</b>	Air
	<b>2</b>	Land and groundwater
	<b>3</b>	Surface water
	<b>4</b>	Sewer
	<b>5</b>	Waste
f) Amenity	<b>1</b>	Odour
	<b>2</b>	Noise
	<b>3</b>	Dust/fibres/particulates and litter
	<b>4</b>	Pests, birds and scavengers
	<b>5</b>	Deposits on road
g) Monitoring and records, maintenance and reporting	<b>1</b>	Monitoring of emissions and environment
	<b>2</b>	Records of activity, site diary/journal/events
	<b>3</b>	Maintenance records
	<b>4</b>	Reporting and notification to the Environment Agency
h) Resource efficiency	<b>1</b>	Efficient use of raw materials
	<b>2</b>	Energy efficiency

The term 'permit' for the purposes of this form includes: licences, authorisations and consents.

### Understanding your non-compliance scores

Non-compliance findings are classified using our published Compliance Classification Scheme, (CCS).

This scheme categorises breaches of permit conditions based on their potential for environmental impact as shown below. If you wish to discuss further any comments made by the officer on this form, contact your local area office or for more details of the CCS scheme, see the Environment Agency's website or contact your local office.

CCS category	Description
1	A non-compliance which has a potentially <b>major</b> environmental effect
2	A non-compliance which has a potentially <b>significant</b> environmental effect
3	A non-compliance which has a potentially <b>minor</b> environmental effect
4	A non-compliance which has <b>no</b> potential environmental effect

### Corrective action

We have various options to ensure that you correct actual or potential non-compliance:

- We may advise on corrective actions, verbally or in writing
- We may require you to take specific actions, by letter or by issuing a notice
- We may require you to review your procedures or management systems
- We may change some of the conditions of your permit
- We may decide to undertake a full review of your permit

Any breach of a permit is an offence, and we may take legal action:

- We may serve a warning on site or by letter. The officer may complete the site warning declaration on this form. A warning is our minimum enforcement response, however, it does not preclude us taking additional enforcement action including the issue of a formal caution, taking a prosecution and/or the service of a notice.

- Depending on the offence, the penalties imposed by a Court on prosecution can include substantial fines and even imprisonment.

We have published our Enforcement and Prosecution Policy which seeks to achieve a consistent approach to enforcement across all our regulated activities.

### Environment Protection Operator and Pollution Risk Appraisal (EP OPRA)

Compliance assessment findings may affect your EP OPRA score. This score determines your charge and affects the allocation of our resources to check your compliance with the permit.

### Data protection notice

The Environment Agency is responsible for regulating environmental protection, flood defence, water resources and fisheries. It has a duty to discharge its functions to protect and enhance the environment and to promote conservation and recreation. The information provided will be processed by the Environment Agency to fulfil its regulatory and monitoring functions, and to maintain the relevant public register(s). The Environment Agency may also use and/or disclose it in connection with:

- offering/providing you with its literature/services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities, emergency services) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information Regulations request.

The Environment Agency may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

### Disclosure of information

The Environment Agency will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within twenty working days of receipt of the assessment form indicating which information it concerns and why it should not be released, giving your reasons in full.

### Customer charter – What can I do if I disagree with the compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with the officer's line manager, Area Environment Manager or Area Manager. If you wish to raise your dispute further, this can be done through our official Complaints and Commendations procedure phone our general enquiry number 08708 506506 (Mon to Fri 08.00–18.00) and ask for the Customer Contact team, alternatively you can send an email to [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk). If, after following our Complaints and Commendations procedure, you are still dissatisfied, you can make a complaint to the Ombudsman. For advice on how to complain to the Parliamentary Ombudsman phone their helpline on 0845 015 4033.